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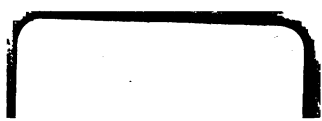
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A U S T R A L A S I A

AND

THE OCEANIC REGION

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WITH SOME NOTICE OF NEW GUINEA

FROM ADELAIDE—*Via* TORRES STRAITS—TO PORT DARWIN
THENCE ROUND WEST AUSTRALIA

BY

WILLIAM BRACKLEY WILDEY

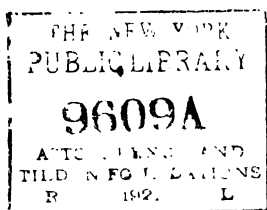
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1876
P. 213



MELBOURNE:

FERGUSON AND MOORE, PRINTERS,

FLINDERS LANE EAST.

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INTRODUCTION.

AFTER a residence of twenty-two years in Australia, I sailed in 1873 from Melbourne to Adelaide, and thence started, by the *Gothenburg* steamer, for Port Darwin, Northern Territory, which, up till within three years, had been almost a *terra incognita*; and I have herein briefly described all the Ports—with their latitudes and longitudes, and distances from certain capitals—in South Australia, Victoria, New South Wales, Queensland, and the Northern Territory, passed or touched at during the voyage, as well as those of West Australia; thus hoping that the book may be one of utility for preliminary reference, and may partake of the character of an Ocean Guide to all the Australian Colonies. The regions to the north and north-east of Australia, upon which I dilate, have but recently been brought within the influence of civilisation; and I have attempted to indicate the position of the extensive Pastoral Districts, yet sparsely stocked, in Queensland.

The increased utility of the book, so considerably enlarged in volume, will, I hope, be a sufficient apology to my earlier subscribers for the delay of the publication, caused by the increased labour of research and compilation.

My aim has been rapidly to run over the ground traversed, *currente calamo*; and I have endeavoured to impart, as I progress, some information attainable only by travel, or by diligent correspondence; as well as that which I do not scruple to borrow. This may be of some import to settlers, who, having sons approaching manhood, contemplate giving them a start in search of new country, as I point out—divesting my quotations from the Land Acts of legal verbiage—how stations can be occupied and stocked anywhere in Northern Australia. For the information respecting the number of stations and cattle depastured in Northern Queensland, I am indebted to Mr. James Gibson, a squatter, who has resided eleven years on the Saxby River, 480 miles inland from Townsville, and 150 miles from the Gulf of Carpentaria, and the largest stockholder thereabouts.

19. Nov. 1921

Some knowledge may also be conveyed to persons at a distance touching the resources of Australia generally, a knowledge of which, illimitable as they are—auriferous, metalliferous, agricultural, and pastoral, whether you look north, south, east, or west—ought to be more widely diffused throughout Europe: of a continent, sparsely occupied, containing 2,983,263 square miles, or 1,909,288,923 acres; and which continent, with Tasmania—when one federated dominion, “the dominion of Australia”—will probably be regarded the most important, as being the richest portion of the British Empire. As proud may Britons then be that their Queen be designated Empress of Australasia, as that she be Empress of India. I leave others to judge how far I have succeeded in blending interesting matter with methodically-arranged geographical detail.

The Palmer River and other Quartz Reefs, as well as the recently discovered rich and extensive Copper Fields, in Northern Queensland, are mentioned. My journey on foot from Port Darwin, 125 miles south, to Yam Creek, I have day by day noted, remarking upon the daily camping places, localities of water and grass, and character of the country.

The large number of subscribers to the work—a considerable portion of it but a compilation from an infinite number of books—and reviews of the MS. by literary men, embolden me to hope that it may meet with the favour of the public. In which event, I contemplate republishing it at intervals, with variations of the non-geographical matter, and such emendations as time may necessitate.

As regards the prospects of the Northern Territory, I saw hundreds-weight of rich specimens constantly brought into Palmerston from up-country, leaving no doubt of the auriferous character of the Territory.

The Yam Creek mining mania being at its height, I had been deputed by a party of Melbourne and Adelaide capitalists to visit the territory, with a view of ascertaining the desirability, or otherwise, of acquiring auriferous land, already prospected; or of sending out a prospecting party. Having visited the reefs, I did not advise my constituents to incur any further outlay, as I was satisfied that the reefs can only be profitably worked by practical men, resident on the spot, with aid of Asiatic labour; the facilities for obtaining

which in China and Singapore—where I was resident a short time—are herein shown.

Presuming the reefs to be payable; subsequently with the advent of planters of sugar, tobacco, and cotton—for the habitats of these products enjoy a similar climate and soil—such an era of prosperity will dawn upon the Northern Territory as few now venture to predict, whilst the all-absorbing topic is gold; although, to my mind, valuable live stock, and shipments of merchantable produce, which always command a steady price, are as much to be desiderated.

The progress of the Territory is indicative of the energy of the Adelaide people: for it is to be remembered that in March, 1873, not fifty men were on the reefs, and no one was working; and that now several claims are actually raising and crushing golden stone,—although the population is much reduced since 1874; that a large, well laid-out town has been surveyed, and numerous stores and other buildings, have been erected; that a weekly mail starts for the reefs even in the wet season; that a bank has opened a branch in Palmerston, the port, and remittances can now be telegraphed to the extremity of Australia; and that an able and well-printed newspaper is published weekly in Palmerston.

Some pages are devoted to the following subjects:—The introduction of tropical fruits likely to thrive, as I believe, in the Northern Territory; the climate, soil, seasons; the treatment of fever and ague. The British Australian cable, the overland telegraph, and the course of it across the continent, may also be deemed worthy of notice; and I have minutely described, but perhaps imperfectly, the stupendous and wonderful ant-hills, many even twenty-five feet high, which cover a very large tract of country in the Northern Territory.

Should this little work fall into the hands of a scientific man—a botanist, or entomologist—in the old country, I can promise him a rare treat, should he be induced to take passage to Australia and then undertake the trip herein described, by one of the steamers which carry the mail, bi-monthly for the South Australian Government, from Adelaide to Port Darwin. The passage occupies about twenty-one days from Adelaide, nineteen from Melbourne, and fifteen from Newcastle.

Hints are offered upon a variety of subjects—not merely from my own experience, but with the advantage of the greater experience of others—which may be regarded with interest by the traveller, the merchant, the squatter, the miner, or free-selector in Victoria or New South Wales. For much Northern Territory information I am indebted to Mr. William McMinn, the pioneer surveyor, who rode in advance of the overland telegraph construction party to blaze the line of the first section from Port Darwin; to Mr. R. E. Knuckey, who laid out other sections in the interior of the continent; and to several others of the party, all Adelaide men of much intelligence; to Mr. Gilbert McMinn, senior Government surveyor; and to the courtesy and hospitality of the energetic Mr. Warden Butfield am I especially obliged.

I quote the reports of Captain Douglas, the late Government Resident—of some years' experience of the country—as to the effects of the Northern Territory climate on the European constitution; and also as to the nature of the soil.

Perhaps an idea of the geography of Northern Australia may hereby be conveyed to some who erroneously imagine that Port Darwin is on the east coast of Australia; and that Palmerston, Port Darwin, and the Palmer River, Queensland, have some affinity.

At the risk of being accused of plagiarism, I have largely availed myself of extracts from the *Argus*, *Age*, *Telegraph*, *Brisbane Courier*, *Queenslander*, *Cleveland Bay Express*, "Keith Johnston's Modern Atlas," "Bell's System of Geography," "Collins' Library Atlas," "The Australian Nautical Almanac," "The Australian Directory," "The Australian Hand-Book," "Sydney Bradshaw," Pugh's reliable "Queensland Almanac," and from many periodicals too numerous to particularise. When making a quotation, I have usually mentioned my authority, unless repetition would become irksome to the reader.

I shall feel favoured if any person detecting an error, however trivial—by no means improbable, considering the multitude of references—will take the trouble to apprise me of the same, per post, care of the publisher.

W. B. WILDEY.

MELBOURNE, April, 1876.

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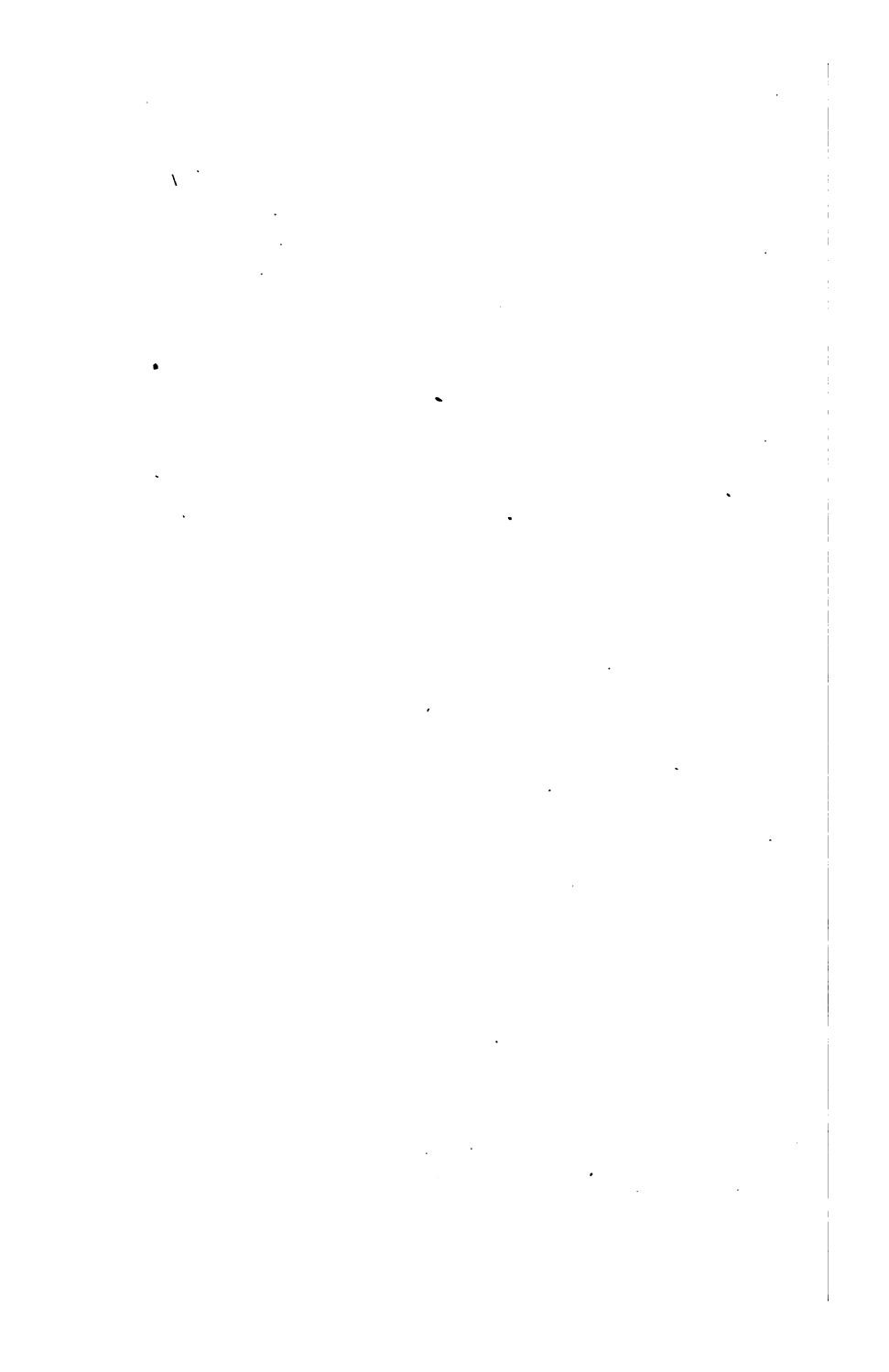
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E R R A T A .

- Page 22.—For “750,000,” read “914,730.”
- „ 26.—After “Murrumbidgee,” for “1517,” read “1707;” and after “Murray,” for “630,” read “785.”
- „ 64.—For “By Somerset,” read “To Somerset.”
- „ 67.—In lieu of “September, October, and November,” read “July, August, September, October, and November are the warm months.”
- „ 72.—For “7800,” read “7097” miles.
- „ 80.—In lieu of “adheres to the rocks,” read “found in the sand and mud; the receding tide leaves them on the surface, otherwise the natives dive for them.”
- „ 81.—For “Near future of Australia,” read “Near future of North Australia.”
- „ 110.—For “Magnus,” read “Lepanto.”
- „ 112.—In lieu of “Murray & Co.,” read “J. Williams.”
- „ 113.—In lieu of “longitude 129° and 130° east,” read “129° and 138° east.”
- „ 149.—In last line, for “Ceylon” substitute “Sumatra.”
- „ 171.—After “Waigiou,” read “an island at.”
- „ 196.—In lieu of “1852,” read “1851.”
- „ 239.—Omit the words “Captain Flinders;” and in lieu of “they,” in the next sentence, substitute “Bass and Flinders.”
- „ 286.—In lieu of “held by 157 persons,” read “held by 64,014 persons.”
- „ 286.—After “have matriculated,” read “during 1874” (the total up to 1875 being 721;) and after “twenty-four undergraduates,” read “have been admitted to *ad eundem statum*.”
- „ 288.—SUNDAY MESSAGES, MELBOURNE.—In the sentence, “provided they be accompanied by the additional fee,” erase the word “additional;” the fee being five shillings only.
- „ 288.—FOREIGN TELEGRAMS.—Erase the paragraph, “it must be remembered” &c.; the through fee to the United Kingdom has been fixed at 10s. 6d. per word.
- „ 304.—After the words “decomposed granite,” near the top of the page, erase the word “gravel.”



SOUTH AUSTRALIA.

CHAPTER I.

ADELAIDE—EARLY COLONISATION—CLIMATE, &c.

IN July, 1873, when we arrived in Adelaide from Melbourne, the share market was depressed, in fact a reaction had set in; and this might well have been predicted after the excitement of the previous three months. In the café attached to the theatre a crowd of jobbers and speculators nightly assembled, and trafficked in the scrip of the companies so magically created by aid of the electric telegraph across the continent of Australia; and a "Corner" had been instituted, where a numerous band attended during daylight, and then adjourned to the café till midnight. Sundry rich specimens of quartz were in the hands of the brokers, notably from "Neatt's," "Winn's," and the "Princess Louise." This latter company held nineteen boxes of quartz just arrived by the *Gothenburg*, and which the public was agog to see. When eventually they were opened, and the quartz on the counters in White's Rooms had been examined, the excitement was allayed. Some fondly imagined it would average 400 ounces per ton. The actual yield, when crushed, was 129 ounces from 17 cwt.; not a poor result, but creating dismay amongst the shareholders of the mine, and the scrip at once from £7 receded to £3.

In the following brief sketch of South Australia we shall frequently be beholden, amongst others, to an able little work, published many years ago, with initials G.F.A., and to Mr. Austen's work on the copper mines of the colony. The latitude of Adelaide is 34° 53' south, and longitude, east, 138° 39', according to the *Geographicus Indicus* to Keith Johnston's *Modern Atlas*, which will hereafter chiefly be our text-book as to latitude and longitude.

The colony was proclaimed by Captain Hindmarsh, the first governor, on 28th December, 1836, and was viewed with great favour by a body of very superior immigrants, possessing not only intelligence but capital, more or less. These, as is well known, encountered great vicissitudes of fortune, all which have been long since overcome, and the colony may now be regarded as one of the most thriving of the Australian group. Imbued with all the

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energy of the Anglo-Saxon race, the colonists lack the go-a-head spirit and undue excitement, usually the characteristics of the Victorian traders and miners, and so they have progressed surely, though slowly; and a career of prosperity greater than ever appears to await their exertions, in developing the resources of the enormous territory they hold.

The city of Adelaide stands on a plain eight miles east of Port Adelaide—approached up Gulf St. Vincent, which is thirty miles wide, and runs due north eighty miles inland—and four miles from a range of bold mountains, the Mount Lofty range, running about thirty miles from north to south—at a distance of twelve miles from the coast. These, in the background, render Adelaide very picturesque. For miles the slopes are dotted with villas and gardens, even to within a few hundred yards of Mount Lofty, 2285 feet above the level of the sea. The population is about 40,000. The town covers an area of 1042 acres, exclusive of streets, squares, and park lands, which comprise 2000 acres.

THE PUBLIC BUILDINGS are numerous, many of fine structure, such as the Government House, the Town Hall, Post Office, Government Offices, Supreme Court-house, the Hospital, South Australian Institute, as well as the various banks, churches and chapels, hotels, and many handsome shops, which constitute Adelaide a city of importance and of imposing appearance.

THE BOTANICAL GARDENS are tastefully laid out, and cover over forty-six acres, and are being increased to 150 acres, which will have large carriage drives and shaded footpaths. They are a charming resort for the citizens, and a delightful retreat on a hot dusty day, and are accessible in a few minutes from the centre of the town. These gardens, supervised by Dr. Schomburg, are incomparably superior to those of any other colony.

THE CLIMATE of South Australia is highly salubrious; the rarefaction of the atmosphere and the dryness of the heat render the thermometrical changes of the weather far more supportable than the same would be in a more humid climate. Although the thermometer in the summer, from December to February, may oftentimes be 104° in the shade and 145° in the sun, yet no fevers prevail, neither epidemics nor endemics, and tubercular affections of the lungs are rare. As in all the southern colonies, so in Adelaide, occasionally during the summer—perhaps six or eight times—hot winds occur, and last for three days, blowing from the north. These can only be compared to the blast of a furnace door opened against a traveller. People loll and lie about under verandahs, draw down all the blinds, and shut out every breath of air. The poor horses suffer much; the dogs and cats pant; the fowls heave their breasts, and refuse to lay eggs. All the bars of the hotels are full of thirsty souls, drinking iced

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drinks. On the third day—although we have known a hot wind to last five days—the sirocco terminates, by the wind veering round to the west and south-west, when a delightful sea breeze arises, and the temperature falls perhaps 30°, and from utter prostration all is animation, life, and activity. Although infants and old persons severely feel these hot winds, yet they are healthy, as they purify the atmosphere, drying up and rendering innocuous all decomposing animal and vegetable matter; and healthy persons experience not the slightest ill effect—perhaps enjoy the climate the more after the change. The coldest months are June, July, and August, when the mean temperature is 51°, and the weather is most enjoyable.

THE PORT LINE OF RAILWAY, seven and a half miles in length, connects Adelaide with the Port.

THE NORTH LINE, passing through Gawler, a town with a population of 1663 persons, distant twenty-five miles north from Adelaide, terminates at Burra, and is about 100 miles in length. A branch line to Kapunda, a town with about 2190 inhabitants, forty-eight miles north-east from Adelaide, leaves the main line at Roseworthy, thirty-one miles from Adelaide.

A private company has built a RAILWAY FROM ADELAIDE TO GLENELG, a favourite watering place in Holdfast Bay, six and a-half miles from Adelaide—a powerful revolving light is fixed on the jetty, and here the P. and O. Company's mail steamers now call—this railway would be remarkable in any other country than America, as its course is along the centre of the principal streets, and a bell is kept incessantly ringing and jingling when any danger can arise, such as crossing streets. Financially it is a great success, and though but a few months opened the shares are at a large premium. The population of Glenelg is about 1400 persons. The hotels are well patronised in the summer season.

The coast line of the southern boundary of the colony exceeds 1600 miles. From Cape Northumberland, in latitude, south, 38°, it runs 200 miles in a north-westerly direction to Encounter Bay; then commence the two deep gulfs of St. Vincent and Spencer, divided by Yorke Peninsula, a long narrow tongue of land. Spencer's Gulf is the larger, and extends up to latitude 32° south, and at the head of Spencer's Gulf is Port Augusta. The trans-continental telegraph wires to Port Darwin branch off at Stirling a township five miles east of this port, and 220 north of Adelaide.

At times the atmosphere becomes so rarified, owing to extreme dry heat, that most extraordinary optical effects or illusions are caused thereby. Occasionally vessels bound up St. Vincent's Gulf to Port Adelaide have been rendered visible by the mirage, as the phenomenon is termed, their shadows being thrown high up in

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the air, whilst the ships themselves were far below the horizon, and in several cases these spectral vessels have been reported at the look-out station some days before the actual crafts made their appearance.

Adelaide has every appearance of wealth and prosperity. In the vicinity reside many wealthy merchants and squatters, who depasture their cattle and sheep on tracts of land larger than a German principality. No town in any other colony can boast of more extensive reserves; in which respect the founders merit the gratitude of posterity for reserving such lungs to the city; and to the City Council is due all credit for their foresight in planting them with trees, as well as the principal streets, which are thereby well shaded.

South Adelaide is laid out in wide streets at right angles. It contains all the Government Offices, merchants' stores and shops, and is bounded by four terraces, named after and which front to the four cardinal points of the compass, north, south, east and west, and each of these looks towards an open park-like space of ground, about one mile in width. It covers 700 acres.

North Adelaide covers 342 acres, and is divided from South Adelaide by the River Torrens and a strip of park land. The position of North Adelaide is elevated, and the suburban villages towards the slopes of the hills are numerous and contain many elegant villas.

The South Australian Institute, in connection with which is a museum, contains about 18,000 volumes. A commodious hospital accommodates 203 patients. There are two lunatic asylums, a theatre, an asylum for the destitute, aged, and decrepid—none else; handsome and extensive houses of Parliament are in course of being erected. Excellent hotels, mansions, and villas in every direction betoken abundance of wealth, and hospitality prevails throughout the colony. Two daily morning papers are published, and two evening, as well as several weekly papers, amongst which are a German paper, Roman Catholic and Protestant organs, and a Methodist and a Temperance journal. There are six banking institutions, one of which, the English, Scottish, and Australian Chartered, has a branch at Port Darwin, to and from which—the remotest part of the continent—remittances are made within two hours' time by telegraph. The depositors in the Savings' Bank number 21,253, and the deposits amount to £376,000. The houses exceed 7000. The P. and O. Company's steamers land the mails at Glenelg, and they are then conveyed by railway to Adelaide, the first port touched in Australia—after King George's Sound—and from which telegraphic European news is flashed to all the colonies in advance of the letters. It is also the terminus of the overland telegraph line to Port Darwin, and telegraphic communication exists with almost every town in Victoria, New South Wales, Queensland, and Tasmania; and next year the line

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now being constructed between Port Eucla, South Australia, and King George's Sound, will be completed; when the rapidly thriving colony of West Australia will be brought into daily communication with the whole world, as are all the other continental Australian colonies. A weekly line of steamers runs to Melbourne, with which much trade is carried on, and which is largely supplied by Adelaide with flour.

CHAPTER II.

AGRICULTURE—PASTURAGE—GENERAL FEATURES OF COUNTRY.

ALL European fruits and vegetables attain to perfection, as do oranges and lemons, which are as fine as those of New South Wales. The olive and Zante currant thrive luxuriantly. The raisins are as excellent as those of the Cape, and are as well packed for export. The grapes are most luscious and prolific; we were astounded to see bunches of great weight fifteen inches in length. The quality of the wine is considered equal, if not superior, to that of any other colony. South Australia may be termed the granary of the colonies, the breadth of acreage under crop so far exceeding that of any other; and a much cheaper mode of harvesting is here practised, which cannot be in a moister atmosphere. A reaping machine, or stripper, as it is termed, drawn by four horses, and guided by one man, will cut seven or eight acres per day, according to weather. It traverses the corn-field and clips off the heads of wheat, which is winnowed at the headlands, bagged and carted expeditiously; the stubble is burnt for fertilisation of the land, the straw, of course, being lost.

No country can produce finer wheat, and although the average yield per acre is far less than that of other colonies, about seven to eight bushels—new lands yield heavy crops, wheat having a particular affinity to the soil—yet in 1875, the acreage under crop was 839,638 acres, and the yield has been 9,862,693 bushels of wheat; the yield in 1874 having been 6,178,816 bushels from 784,784 acres. Without the use of the above-mentioned machine the harvest could hardly be garnered, so scarce is labour, and it is to be regretted that a few thousands of those who have been so sorely tried in the old country cannot come to South Australia, where high wages and abundance of employment await them the moment they land. Although there is a benevolent asylum to receive the decrepid past work, yet not one beggar did we see, and we are informed there are none, a very significant fact as to the prosperity of the colony.

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Not only the farmer, but the whole community would be vastly benefited by a steady weekly influx of the right sort of immigrants—female domestic servants, skilled mechanics, as well as simple-hearted country people, accustomed to earn their living by the sweat of their brows, as farm labourers, or as navvies, now in such request in all the colonies. It is not creditable to the intelligence of mechanics that, in some of the colonies—after being brought out themselves—selfishness renders them hostile to free immigration; and they cannot realise the fact that extra population alone, all of whom must be fed, housed and clothed by somebody, creates extra work; if otherwise, the demand is fictitious, and must inevitably terminate with concomitant circumstances, such as a discontinuance of public works—a matter of time only. But clerks and persons who are only fitted for light employment, such as waiters, storemen, and shopmen, are not wanted. In all the colonies this class is too numerous, and very many are mostly out of employment, and destitute.

The immense territory of South Australia now includes 27° of latitude and 12° of longitude, and embraces 750,000 square miles, inclusive of the Northern Territory. Between the ranges and the Gulf St. Vincent are spread the Adelaide Plains, with the Para and the Gawler Plains stretching northwards, which produce, annually, large crops of grain. To the eastward is a tract of hilly country, which extends, for a width of twenty miles, until it falls away into the scrubby country that borders the Murray along much of its course through South Australia. Some of this hilly land is thickly wooded with fine timber, and much of it is very fertile. Northwards, beyond the Gawler Plains, is an agricultural district towards the Burra Burra, whilst, in a direction north-east of Adelaide, there are rich lands of unsurpassed fertility about the picturesque range of the Barossa, and large and thriving villages are interspersed, surrounded by fields of corn, extensive vineyards, orchards, and gardens. The country thence, northwards, is chiefly occupied by squatters for pastoral purposes. To the south is a large agricultural district, extending to the southern seaboard, and embracing the greater part of the country between the Murray and St. Vincent's Gulf. Beyond the Murray, and the extensive lakes of its mouth, is the south-eastern portion of the colony, which extends as far as Mount Gambier and the Glenelg to the Victorian boundary, the greater part being devoted to pastoral purposes. North of Spencer's Gulf are some of the finest sheep runs, occupying hundreds of miles of territory, but it is too far inland and too far north to secure, with regularity, the winter rains, and it is not far enough north to receive the regular summer rains of the tropics, and, consequently, droughts are often experienced in the "Far North," as the district is called. Nevertheless, it is thickly stocked with sheep and cattle. The "Flinders Range"

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runs through a great portion of the northern part of the colony. It is barren and precipitous; its highest peaks reaching 4000 feet, and in many places being inaccessible to man or beast. To the west of Flinders Range, and between it and Spencer's Gulf and Lake Torrens, is a dead level, destitute of grass, but covered with salt bush, on which sheep fatten well, water being obtainable by sinking wells very deep. To the eastward are the Willochra Plains, extending fifty miles to the north, beyond which are great broken ranges, far to the east. Amongst these ranges are some of the best sheep runs. This hilly country falls away into the great eastern plains, far into the interior, and becomes a desolate region without water.

CHAPTER III.

PORTS—LAKES—RIVERS, &C.

PORT ADELAIDE is the seaport, between which and the city is a good metalled road, eight miles long, plied upon by cabs and omnibuses. The port is entered from St. Vincent's Gulf, between two large sand shoals. It is well sheltered from winds, and a lighthouse, outside the bar, well denotes the entrance. Ships drawing eighteen feet of water can lie alongside the wharves; and there is a patent slip and a ship-building yard. The town has a busy aspect, and contains a population of about 2500 persons.

PORT AUGUSTA, the most northern port and the finest harbour in the colony, is at the head of Spencer's Gulf, 240 miles north-west of Adelaide, and has a population of about 700. A weekly steamer plies to Adelaide and the intermediate ports of Lincoln, Wallaroo, Edithburg, 197 miles west, and Franklin Harbour, 308 miles from Adelaide. Copper and wool are sent hence, coastwise, to Adelaide, and wool ships are loaded direct to Europe. Many rich copper mines will, doubtless, be opened up when the seaboard is connected by rail with the north, as copper indications exist east, north and south for hundreds of miles.

PORT PIRIE, 154 miles north of Adelaide, is on the east side of SPENCER'S GULF, opposite the commencement of FLINDERS RANGE, which then runs parallel with the gulf, into the interior 250 miles. Since the rush to the northern areas this port has become of some importance. The town occupies half-a-mile along a wide salt-water arm, into which run the shippers' wharves—of which there are five. These are connected, by rail, with

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stores on edge of the water, from which the wheat is conveyed by schooners, drawing from seven to eight feet, and carrying 100 tons. Splendid flour is here made by Mr. Magarey, whose condenser distils water for use of the town.

PORT BROUGHTON is in SPENCER'S GULF, south of PORT PIRIE, thirty miles along the coast; and this port also is of importance to the selectors in the north. It has a pier about twenty chains long running out into eight feet of water at low tide. The vessels lie at the mouth of a tortuous creek, by which the wheat is lightered nine miles. A light railway is being constructed to the HUMMOCKS, sixty-nine miles north of Adelaide. There are four shippers of wheat, who have ample storage at the port.

PORT ELLIOT is a seaside town on the shores of Encounter Bay, fifty-nine miles south of Adelaide. It is connected with Goolwa and Strathalbyn by an iron tramway. The population of the district, which is largely wheat growing, is about 500.

PORT VICTOR is a seaport on the shores of Victor Harbour, a small bight in Encounter Bay, sixty-four miles south of Adelaide.

PORT GOOLWA, sixty miles south of Adelaide, on the west side of the Murray, seven miles from its mouth, has a population of about 600, and is connected with Port Victor by a tramway, as also with Strathalbyn, distant twenty-eight miles from Port Victor, which is a very pretty seaside resort in the summer months, and has a population of about 300 persons; whilst Strathalbyn is a very picturesque town, thirty-five miles south-east of Adelaide. The River Angus flows through it, on the banks of which the corporation have planted willows and shrubs. The population of the district is about 1700. These districts are agricultural. The Legislature has ceded certain privileges to the Goolwa corporation to enable it to cut a canal—half-a-mile south of Goolwa, where the peninsula is three-quarters of a mile broad—that will allow ocean going steamers to enter the Murray, and receive the cargoes direct from the river steamers. The strip of land to be cut through is a sand-hill, fifty feet high, but to obtain twenty-six feet depth of water the canal must be taken half-a-mile into the sea, and then the Port of Goolwa will be opened up—a port with nine miles of still, deep water, close up to the side of the wharf. The scheme is declared to be feasible, and then will commence a new era in the navigation of the Murray and tributaries.

PORT LINCOLN is a seaport town 210 miles west of Adelaide, and has a population of about 200. The district is occupied chiefly by sheep stations. The harbour is a fine one, situated within the western entrance of Spencer's Gulf, and affords safe anchorage for vessels of any size.

PORT WAKEFIELD, in St. Vincent's Gulf, is sixty miles north of Adelaide. BALACLAVA, fifteen miles distant, and HOYLETON, thirty miles, are connected herewith by tramway.

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PORT MACDONNELL is 304 miles east of Adelaide, on the south-east coast, and the principal trading port of the district. The population is about 400; of the district, about 900. There is steam communication with Adelaide, and with Melbourne.

LACEPEDE BAY, 195 miles south of Adelaide, is a port, the outlet of a farming district, and oftentimes a harbour of refuge, south of the Coorong.

ROBE TOWN, about 195 miles south-east of Adelaide, is a seaport on the south side of Guichen Bay. The district is pastoral. The bay has good anchorage, and there is a very long jetty. In the vicinity are many lakes; the scenery is very picturesque, and the climate highly salubrious. The population is about 600.

RIVOLI BAY is a fine harbour, about fifty miles from Mount Gambier, south-east of Guichen Bay.

KANGAROO ISLAND is about twelve miles south-east of Cape Jervis, and forms a sort of breakwater at the mouth of St. Vincent's Gulf, protecting the approach to Port Adelaide from the force of the Southern Ocean. It is over 100 miles in length, east to west, and forty miles in breadth. At its north-eastern entrance is Nepean Bay, well sheltered, facing Gulf St. Vincent.

LAKE TORRENS, situated ninety miles north of Spencer's Gulf, is not an inland sea, as was once denoted on the maps, but a district of very shallow salt lakes, scattered over a large tract of low-lying country, having a drainage towards Spencer's Gulf.

COORONG is a back water inlet from the sea, commencing at the mouth of the Murray, and running parallel with the coast in a south-east direction for ninety miles; being divided from the ocean only by a ridge of stupendous sand-hills, varying in breadth from half-a-mile to two miles. It is navigable, and small steamers can thereby pass from Port Goolwa, on the Murray, to the coast.

LAKE EYRE, about forty miles east of the Denison Range, is salt; and here the Barcoo, having become Cooper's Creek, is supposed to lose itself. At times the lake is perfectly dry.

LAKE GAIRDNER is an immense salt lake, north of the Gawler Range, and is about 350 feet above the level of the sea.

RIVER GAWLER flows in a west south-west direction, into Gulf St. Vincent.

RIVER WAKEFIELD flows in a westerly direction, also into Gulf St. Vincent.

RIVER TORRENS separates North and South Adelaide. It rises in Mount Pleasant, and flows in a west south-west direction, losing itself in large reed beds, which drain into the sea; but it affords an unfailing supply of water to Adelaide. The water in all the wells sunk in South Adelaide is brackish.

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RIVER ONKAPARINGHA is a considerable river, coming in from the north-east. It is twenty miles from Adelaide. There is a jetty 400 feet long at the Port Noarlunga.

RIVER LIGHT is north of Adelaide.

RIVER YANKALILA is south of Adelaide.

BACKSTAIRS' PASSAGE is between Cape Jervis and Kangaroo Island.

MURRAY RIVER.—This is a broad, noble, and deep stream, periodically overflowing its banks like the Nile. It is the great artery of Southern and South-eastern Australia; and before it enters South Australian territory, it drains a large portion of Queensland, New South Wales and Victoria. It rises in the Australian Alps, and along a course of 1500 miles through New South Wales and Victoria, it receives the waters of the Murrumbidgee and the Darling, as well as their numerous tributaries; likewise the Ovens, Goulburn, Campaspe, and Loddon; and, entering South Australia at a distance of 493 miles from its mouth—the whole course being over 2000 miles—it eventually flows into Lake Alexandrina, and thence empties into Encounter Bay, through a narrow opening called the Murray Mouth; but, as the navigation of the mouth is not always safe, owing to shifting sands, steamers coming down the Murray unload the wool at Port Goolwa, and thence by a tramway, twelve miles in length, it is conveyed to Port Victor, where it is re-shipped to Port Adelaide, or loaded direct for Europe. At certain seasons a large trade is carried on by numerous steamers of light draught, built expressly for the trade, taking up stores to, and bringing down wool from the stations along the course of the Murray, Murrumbidgee, and Darling. The Murray is navigable as far as Albury, 1703 miles from its mouth; 389 miles south-west of Sydney, by land; and 189 miles north-east of Melbourne by rail.

THE MURRUMBIDGEE is navigable as far as Gundagai, 1517 miles from the mouth of the Murray; 690 miles from its junction with the Murray; and 315 miles, by land, south-west of Sydney.

THE DARLING is navigable as far as Walgett, 400 miles above Bourke, by water, 2237 miles from the mouth of the Murray; 1650 miles from its junction with the Murray; and 450 miles, by land, north-west of Sydney.

BOUNDARIES OF SOUTH AUSTRALIA—See table, "Area of Australia."

NORTHERN TERRITORY.—This comprehends all the country north of the 26° latitude, south, and lying between the 129th and 138th meridians of longitude, east, and includes the islands on the north coast, west of Carpentaria, such as Melville Island, ninety-five miles in length, by thirty-seven miles in width, situated forty-five miles north of Port Darwin; and Groote Eylande and Maria Island in the Gulf. See "NORTHERN TERRITORY."

MOUNTAINS OF SOUTH AUSTRALIA—See "Mountains of Australia."

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CHAPTER IV.

TABLE OF DISTANCES ON THE COURSE OF THE MURRAY, MURRUMBIDGEE, AND DARLING RIVERS.

Corrected by Messrs. W. McCulloch and Co., Murray River carriers. Any intermediate distance can be calculated thereby. Goolwa is the nearest port to Adelaide, seven miles from the mouth of the Murray, and Echuca is 156 miles north of Melbourne by rail.

UPPER MURRAY.

	Miles.
ECHUCA to Goulburn Junction . . .	17
" Edwards . . .	62
" Tocumwall . . .	156
" Mulwalla . . .	226
" Albury . . .	403

LOWER MURRAY.

ECHUCA to Swan Hill . . .	240
" Wakool Junction . . .	345
" Moulamein . . .	365
" Murrumbidgee Junction . . .	378
" Euston . . .	489
" Wentworth . . .	713
" Goolwa . . .	1300

MURRUMBIDGEE.

ECHUCA to Balranald . . .	473
" Lachlan Junction . . .	593
" Hay . . .	703
" Narandra . . .	905
" Wagga Wagga . . .	1081
" Gundagai . . .	1163

DARLING.

ECHUCA to Menindie . . .	1178
" Wilcannia . . .	1428
" Fort Bourke, now called Bourke	
Town . . .	1963
" Walgett . . .	2363

Messrs. McCulloch and Co. remark—"The Murray is navigable in ordinary seasons, during the months of June to December, inclusive. In wet years it opens in May, and sometimes April, and continues until the end of January and even February. One season (we

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think 1872,) there was no stoppage, the river being open from April, 1871, to about January, 1873. The cause of this was the previous wet seasons having filled all the dry creeks and billabonga, which usually absorb the early winter rains."

DISCOVERY OF THE MURRAY.—Captain Sturt and Mr. John Macleay first descended the Murray, tracing it down to Lake Alexandrina, and thence to its sea mouth at Encounter Bay, South Australia. "This expedition left Sydney on 3rd November, 1829, and proceeded overland with drays, to a point on the Murrumbidgee, 440 miles distant. At this place their two boats, the planks of which had been brought with them, were rapidly built and loaded, and the drays, with the remainder of the party, were sent back to the settled districts of New South Wales."

On the 7th January, 1830, they commenced their voyage down the Murrumbidgee, which here flowed through a flat barren country, between extensive tracts of tall reeds, beyond which vast plains of polygonum stretched away. Its breadth was 150 to 200 yards. Arriving at the junction of the Darling with the Murray—into which the Murrumbidgee had debouched—Captain Sturt says of the Darling: "We next prepared to examine the entrance of the new river, and proceeded up it in the boats for some miles, accompanied by a noisy multitude of natives, who swarmed along the banks on both sides. This river preserved a breadth of 100 yards, and a depth of rather more than twelve feet. Its banks were sloping and grassy, and were overhung by trees of magnificent size. Indeed its appearance was so different from the water-worn banks of the sister stream that the men exclaimed, on entering it, that we had got into an English river. Its appearance certainly almost justified the expression, for the greenness of its banks was as new to us as the size of its timber. Its waters, though sweet, were turbid, and had a taste of vegetable decay, as well as a slight tinge of green."

Descending the Murray, the river increased in size, and held a south-westerly course, "After being in the boats for twenty-two days, they arrived at a spot where the river flowed through lofty sandstone cliffs, which, rising perpendicularly from the water to a height of 300 feet, presented a singular appearance. These cliffs were of a bright yellow colour, and they contained enormous masses of fossil sea shells. The river at length took a sharp bend to the south, and at the same time changed in its character." Alluding to this change, Captain Sturt continues—"It now lost its sandy bed and its current together, and became deep, still, and turbid, with a muddy bottom. It increased considerably in breadth, and stretched away before us in magnificent reaches of from three to six miles in length. The cliffs under which we passed towered above us, and the water dashed against their base like the waves of the sea. They became brighter and

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brighter in colour, looking like dead gold in the sun's rays, and formed an unbroken wall, in some places, of a mile or two in length. The natives on their summits showed as small as crows, and the cockatoos, the eagles, and other birds, were as specks above us; the former making the valley reverberate with their harsh and discordant notes. The reader may form some idea of the height of these cliffs when informed that the king of the feathered race made them his dwelling-place. They were continuous on both sides of the river; but retired more or less from it, according to the extent of the alluvial flats. The river held a serpentine course down the valley through which it passed, striking the precipices alternately on each side."

After quitting the dépôt on the Murrumbidgee, in thirty-three days they arrived at the reservoir of these waters. "The cliffs had ceased, and the river, sweeping in broad reaches along a valley covered with reeds, emerged into a vast shallow lake. Sailing across Lake Alexandrina for nearly fifty miles, they reached the shores of the ocean at Encounter Bay," to which they had been guided by the roar of the surf; but a sandbar caused so rough a sea that they did not venture outside. They returned up the river by the way they came, harassed by hostile natives on the banks, and suffering from scarcity of provisions. Ultimately they reached the dépôt, whence they had started, after an absence of seventy-seven days. And thus did these intrepid explorers solve the question of the outlet, so remote, of the vast drainage of Queensland, New South Wales, Victoria, and South Australia, as is carried away by the Murray, its noble tributaries, and their affluents.

CHAPTER V.

MINERALS—BURRA BURRA—MOONTA, &c.

ALTHOUGH a great number of GOLD-BEARING REEFS have been discovered about Barossa, thirty-five miles from Adelaide, and Echunga, twenty-three miles therefrom, yet but few have hitherto proved payable. Nevertheless, we have seen in the English, Scottish and Australian Chartered Bank, in Adelaide, a large quantity of gold, both reef and alluvial, from these districts; but the quartz reefs have not been wrought with any energy. Doubtless, were these situated in Victoria, shafts at some depth—not one is 200 feet—would long ere this have tested their worth. Certain it is, the "Princess Alice" has lately had regular crushings of stone, which have yielded over two ounces per ton, and we confidently predict the South Australian reefs will, some day, be profitably worked.

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IRON exists in such large quantities that Parliament has voted a bonus of £2000 for the production of the first 500 tons of pig iron. In some parts BITUMEN has been found in abundance, and from some substance, which exudes from the earth, KEROSENE can be manufactured. SILVER AND LEAD MINES have been opened, we know not with what result—but in her vast copper resources, SOUTH AUSTRALIA stands in advance of the whole world.

The far-famed BURRA BURRA was discovered by a shepherd named Pickett, in 1845, and this discovery electrified the community, and was the turning point in the great future of the colony. Farms, cattle, rents and every description of property rose at once in value. From Mr. J. B. Austen's book on the "Mines of South Australia," we learn that, to secure this mine, it was necessary to pay £20,000 for the fee simple of a special survey of 20,000 acres. Two parties combined to find the money, the "nobs," so called, as representing the "aristocracy," and the "snobs," as representing the merchants or trades people. The "nobs" being unwilling to combine with the "snobs" in the formation of a company to work the mine, the land was divided by a line drawn through the centre from east to west. Lots were then drawn for the land, and the northern portion, upon which this mine existed, fell to the lot of the "snobs." Singularly enough the Burra was discovered consequent upon the copper found in the southern portion which fell to the "nobs." Eventually this latter was sold for pastoral purposes at eighteen shillings per acre, after yielding £7000 of ore. The original capital to work the Burra mine was but £1500, subscribed, with much difficulty, by the "snobs;" every old woman suspected of having a few pounds hoarded up in a clock case, or an old stocking, being induced by her relations to open her store; and ten miners having been engaged, work commenced by blasting, and, at once, by the very first blast, a large mass of rich ore was the result, furnishing forthwith, ample funds to carry on the mine. During the first six years 80,000 tons of exceedingly rich ore were raised and shipped to England, yielding a profit of £438,552. As Mr. Austen naively remarks, "A pretty good result for an outlay of £10,000 for the land." At this time 1000 men were employed. The total amount expended by the company, up to 1863, was £1,700,000, of which £1,000,000 was for wages. The gross profits were £850,080, of which £714,560 was divided amongst shareholders. The miners' wages were £1 15s. to £3 per week, and labourers £1 5s. to £2. The great engine for pumping the mine was an eighty-inch cylinder, and the water was made available for working other machinery, and for conveying water all over the mine. The BURRA BURRA is situated about 100 miles, east of north, from Adelaide, on bald hills, about 150 feet in height from the surrounding country. The geological formation is limestone. A large amount of timbering has been neces-

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sary to secure the drives and miles of galleries, through which a person can walk with safety. The ores have been chiefly red oxides, and very rich blue and green carbonates, and malachite, and many very beautiful specimens of the varieties adorn the mantel-pieces of an immense number of houses in the colony.

In 1853 the writer was in Adelaide, and again in 1873. Now a fine city has arisen, with a population as busy as a hive of bees; whereas, in 1853, the streets were but half built upon, and almost the whole working male population had betaken themselves to Sandhurst, in Victoria, or Bendigo, as it was then called. However, an escort started periodically from Adelaide to Bendigo, returning with the winnings of the Adelaide men, who ultimately resumed their former pursuits. The shares of the Burra, from £225, had fallen fifty per cent. It was not being worked, and remained three years unworked, till the Government imported a body of Cornish miners, when work was resumed, and for years 10,000 to 13,000 tons per annum were raised, averaging twenty-two or twenty-three per cent. of copper. These Cornish miners dwelt in subterranean tenements scooped out of the sides, rising precipitously, of the creeks. They had fireplaces, several rooms of good furniture, kitchens, pictures on the walls, and collections of malachite on the mantel-pieces; but oftentimes strangers, as well as goats, ignorant of the *locale* were astonished when walking on the banks of a creek by falling into a hole, which happened to be the chimney of a Cornishman's house.

KAPUNDA has a population of about 2500, and the mines in the neighbourhood have long been celebrated. After passing Gawler, twenty-four miles, is the Kapunda mine, the first discovered in the colony, by Mr. F. S. Dutton, and Mr. C. S. Bagot, in 1843. Mr. Austen states that much excitement was caused thereby; and that, up to 1862, 38,220 tons of copper ore were raised, averaging twenty per cent. of copper, and of the value of £500,000.

Rich as was the Burra Burra, rapidly enriching individuals as well as giving a great impetus to commerce, yet this mine, as well as the Kapunda, was totally eclipsed by the discovery of copper deposits, in 1861, on the west shore of Yorke Peninsula, which have yielded richly ever since.

KADINA is a mining township on the peninsula in Spencer's Gulf, about ninety-three miles west of Adelaide. The population is about 4000.

MOONTA is another mining township on the peninsula in Spencer's Gulf, ninety-nine miles north-west of Adelaide. The population is about 5000.

WALLAROO, ninety-one miles north-west of Adelaide, has a population of 2500. It is the port of shipment in Spencer's Gulf from the mines on the peninsula, with which it is connected by a railway, and here are the largest and most perfect smelting

works in the colony. The mines in this locality appear likely to be more lasting than the Burra, as the lodes are said to be well defined, and to become richer the deeper they are worked. The miners all agreed that there never was a regular lode in the Burra Burra, but that the whole country was impregnated with copper; "its original appearance being a huge boil on the surface, so remarkable that numbers of persons undertook the journey from Adelaide, quite an adventure in those days, for the mere purpose of viewing this wonderful deposit of ore."

On YORKE PENINSULA is now located a large population, consequent upon the copper discoveries, but a great difficulty had at first to be encountered, which was overcome by ingenuity and energy. There was but one small spring on the beach at Wallaroo, and all the wells, wherever sunk, yielded but saltish and highly mineralised water. However, large distilleries were projected, at which the salt water from the mines was purified, "and now, perhaps, for the first time in the records of the world, a population of some thousands, with all their horses, cattle, and other domestic animals, drink distilled water. The price of the water thus distilled is only two shillings and sixpence per hogshead." There is no fresh water within twenty miles.

AS TO THE COPPER DEPOSITS in such abundance NORTH OF SPENCER'S GULF, the neglect thereof is said to be attributable to distance from a port, but such difficulties will be overcome by the construction of the projected railways and tramways, and then, probably, ore, now despised, will be profitably worked; and as rich mines, by prospecting, may be discovered there as those near Adelaide which have yielded such fabulous wealth. A gentleman who has recently visited the north, 250 miles from a port, informs us that the copper indications are marvellous, that all the way up the face of the mountains for miles the oxides crop out to the very summits. Should this not be a rich field for *European enterprise and capital*?—the sole elements wanting to induce these mountains to disgorge their treasure; as do some of the southern mines. Mr. Austen mentions that during the copper mining mania prior to 1862, 1576 claims were applied for, each representing eighty acres; not that each represented a lode, as, on discovery of a lode, the ground around was rushed. Not many mines are now at work, so much capital being required to develop them. Mr. Austen, writing at the time of the copper mining mania, remarks that mere copper stains were regarded as wonderful claims, and placed upon the market, but adds, "I am well aware that many of our abandoned mines would be considered very promising properties in Cornwall."

MINERAL LEASES can be taken up at a small annual rental, subject to no royalty, and we venture to think that as good dividends might result from the operations of a European company, working

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in a healthy country, with every comfort of civilisation in proximity to the mines, and with daily telegraphic communication from London to the mouth of the mines—as would be the case—as in adventuring to Russia, South America, Brazil, or even to Coomassie. A 320 acres lease can be taken up for fourteen years, with right of renewal at ten shillings per acre per annum, and those engaged in mining pursuits can hold half an acre of land for seven years at ten shillings per year; so that a company of English capitalists would be at liberty—if so disposed—to send out their agents to examine the copper country, and take up such area as they might think fit; or they could buy out a company holding rich ground but possessing too little capital to work it to advantage, as many are carrying on in this disadvantageous position. We take leave of the copper deposits with the conviction that they will ensure as lasting prosperity to South Australia as will gold to Victoria.

CHAPTER VI.

CONSTITUTION—RELIGION—ELECTRIC TELEGRAPHS—RAILWAYS— POST OFFICES—STATISTICS.

THE LEGISLATIVE COUNCIL consists of eighteen members, whom the Executive cannot dissolve; six retire every four years, their successors being elected for twelve. It is elected by the whole colony voting as one body—by freeholders of £50, leaseholders of £20 annual value, or occupying a house of £25 annual rental. The qualifications of a member are that he must be thirty years of age, and have been three years resident in the province. The President of the Council is elected by the members.

THE HOUSE OF ASSEMBLY consists of thirty-six members, elected by eighteen districts, for three years, but can be dissolved by the Executive; one-third of the members make a quorum. The qualification of an elector, and a member of Assembly is that he be twenty-one years of age, and that he has been six months on the roll. The Speaker is chosen by the members. Both Houses are elected by ballot. The Governor is appointed by the Crown. The responsible Executive Council consists of five ministers, from either House. The Assembly has lately been increased to forty-six.

RELIGION.—According to the census of 1871, the Church of England numbered 50,849; Roman Catholics, 28,668; Wesleyans, 27,075; Lutherans, 15,412; Presbyterians, 13,371; Congregationalists, 7969; Bible Christians, 7758; Primitive Methodists, 8207; Baptists, 8731; Christian Brethren, 1188; Methodists' New Con-

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nexion, 363; Unitarian, 662; Moravians, 210; Friends, 92; New Jerusalem Church, 137; Jews, 435; Protestant—(*sic*)—4753; other religions, 508. Unknown, 3802; and 5436 objected to the question as to religion.

ELECTRIC TELEGRAPHS.—There are thirty-seven stations. The wires extend over 1718 miles, and communicate with Victoria, New South Wales, and Queensland, and a line from Port Eucla to King George's Sound is in course of erection, at the joint expense of the governments of South Australia and West Australia. The overland telegraph from Adelaide to Port Darwin is carried over 1973 miles, and is described elsewhere.

RAILWAYS.—Besides the lines to the Burra and Kapunda, and the Port line, to which we have alluded, a line is in course of construction from Narracoorte to Kingston, Lacepede Bay, forty-eight miles in length; also another line between Port Pirie, in Spencer's Gulf, and Gladstone, 134 miles north of Adelaide; and the following are projected—a line from Kadina to Port Wakefield, thirty-two miles, another from Port Adelaide to the Murray, and three smaller lines; 196 miles of lines are being run over, of which sixty-six miles are propelled by horse-power.

POST OFFICES.—These number 348. During the year ending 31st March, 1874, the number of letters carried was 2,982,626, and newspapers 2,098,606. The post office and telegraph expenditure was £86,056, and the receipts £76,640. The postage rates are—Town letters, 1d. per half-ounce; by land or sea, 2d.; *viâ* Southampton, 6d.; *viâ* Brindisi, 9d. per half-ounce; newspapers, *viâ* Southampton, 1d., but are free to all parts of Australasia and where no foreign postage is collected.

STATISTICS FOR PHILADELPHIA EXHIBITION COMMISSIONERS.—The *South Australian Register*, of 6th August, after setting forth the progress the colony has annually made, states that on 31st March, 1875, the population of the colony was 206,476 persons; the live stock in the colony amounted to—Horses, 93,122; cattle, 185,342; sheep, 6,120,211. The revenue for the past year was £1,055,936; the expenditure, £1,167,050; and the public debt was but £2,937,350 (which, of course, included the £382,000, the cost of construction of the overland telegraph.) The imports during the past year amounted to £3,973,455, and the exports to £3,868,276. The total liabilities of the six banks were £2,714,212; and their assets, £4,736,675. The Savings' Banks held deposits amounting to £754,600.

PASTORAL LEASES.—These are granted at a yearly rental of 2s. 6d. to £1 per square mile; and an assessment of 2d. to 6d. for sheep; and 1s. to 3s. for cattle. Leases are granted for a term of years in the outlying districts, but subject to be resumed if required for agricultural purposes. In settled districts—*Hundreds*—annual leases only are granted. On 31st December,

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1874, the squatters held under lease 995 runs, covering 85,251 square miles; and 117 annual leases embraced 3312 square miles. The total annual rental of the former was £43,725, and of the latter £3932: 18,000,000 acres of land were enclosed, of which 2,000,000 were fenced in last year.

The land sold in 1874 amounted to—

109,012 acres, for £145,499 cash.
351,442 ,, 595,163 credit.

460,454	£740,662
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On 31st December, 1874, 1,330,484 acres were under cultivation; 4,504,197 acres had been alienated, leaving an area of 239,975,803 acres, or 374,962 square miles unpurchased, exclusive of the Northern Territory—340,000,000 acres, or 531,250 square miles.

In the colony are 2795 miles of roads, 884 miles of which are macadamised. The value of wheat exported in 1874 was £1,212,243, and of the wool, £1,994,190. In five years, from 1870 to 1874, 2763 ships entered inwards, having a tonnage of 919,303; and 2694 ships cleared outwards, having a tonnage of 878,269. Telegraphic wires run over 3000 miles, and a line 540 miles in length is being constructed from Port Eucla to join that approaching from King George's Sound. A Parliamentary Commission has recommended the construction of thirty-one lines of railway, extending over 1376 miles; of these, eleven lines, running over 530 miles, are to be at once commenced in order to open up the rich copper region north of Spencer's Gulf, and the rich agricultural districts skirting Spencer's Gulf. Finally, the Government Budget, on 3rd August, announced that £1,900,000 is to be borrowed; of this loan, £600,000 is this year to be expended, and 2000 immigrants are to arrive by Christmas. Compared to that of the other colonies, the Adelaide public debt—£2,937,350—is insignificant, and well can the colony now afford to launch out liberally in importing muscle and sinew, which alone can cause her to progress with the same rapidity in developing her immense resources, as are her neighbours advancing.

From Mr. Boothby's statistics we learn that the annual value of wheat exported from South Australia ranged, in the last ten years, from £1,228,480 in 1864, to £1,711,746 in 1873. The annual value of all minerals exported from 1865 to 1873 ranged from £574,000 to £770,590; and the quantity of copper annually exported from 1869 to 1873 ranged from 20,127 tons to 27,382 tons. In 1874, 5217 acres of vineyards were under cultivation; 46,400 gallons of wine were exported, and 44,982 cwt. of grapes were sold.

TARIFF.—This is not levied for any purpose of protection. Ale and beer, cider, &c., for six reputed quarts, 9d. Arrowroot, candles, oatmeal, sago, dried fruits, 1d. per lb. Bacon, cheese,

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YUDANAMUTANA, 460 miles north-west, is a copper mining district, where at times large quantities of ore have been raised. TALISKER, near Cape Jervis, sixty-eight miles south of Adelaide, is an agricultural district; the silver and lead mines in the neighbourhood also promise well. HINDMARSH, two miles from Adelaide, with the adjacent villages, has a population of about 4500. The district is extensively cultivated, and there are several manufactories. BLINMAN is 348 miles north of Adelaide. The district abounds in copper of the richest description, but, as yet, it is undeveloped. The population is about 500.

CHAPTER VIII.

COUNTIES—DISTRICTS—LAND REGULATIONS—RAILWAYS TO AGRICULTURAL REGIONS AND NORTHERN COPPER COUNTRY.

SOUTH AUSTRALIA is divided into *Counties*, *Hundreds*, and *Districts*. The districts have the power of municipalities. Hundreds and counties serve for electoral purposes. The eastern, north-eastern, and south-eastern districts, are highly productive.

COUNTIES.—The old counties are—FROME, BURRA, STANLEY, and LIGHT, in the north—ADELAIDE and HINDMARSH, in the central—RUSSELL, ROBE, and GREY, in the south-eastern—FLINDERS, in Port Lincoln Peninsula. The LIMESTONE COUNTRY of Tatiara, is near Victoria. MOUNT GAMBIER BASIN, an extinct volcano, is south of Tatiara.

DISTRICTS.—The SIX PASTORAL DISTRICTS, as they are designated, are—the northern, western, north-eastern, south-eastern, Yorke Peninsula, and Kangaroo Island.

Within the SETTLED DISTRICTS much purchased land is used for grazing, but the unsettled districts contain by far the most stock. Both cattle and sheep fatten amazingly quick in the salt bush localities.

Every county is divided into several hundreds, which are blocks of land ten miles square, thus containing each 100 square miles. The country is divided into seventy-six districts, each having a chairman and elected council; and such contain various areas up to 230 acres, and are named after townships, rivers, hills, &c.

SELECTING LAND ON CREDIT.—Country lands, after survey only, are open for selection on credit, at not less than £1 and not more than £2 per acre. The upset price is to be fixed by the Government, and when that is more than £1 per acre the land,

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if not taken up at that price, is to be reduced every seven days at not more than five shillings and not less than two shillings and sixpence per acre, until it comes down to £1, unless previously taken up. On selecting land on credit, ten per cent. of the purchase money must be deposited with the commissioners, as interest in advance for three years; at the end of that period, an additional ten per cent. will have to be paid, as interest for the next three years. Having fulfilled all the required conditions, at the end of the six years the selector will be entitled to the fee simple of his land on payment of the principal.

EXTENDED CREDIT.—Further credit can be obtained by payment of half the amount of the purchase money; when four years' extension of credit for the other half will be given to him, he paying four per cent. per annum interest on the amount. The said selector is limited to 640 acres, but if he select blocks of land more than 640 acres in the aggregate, and under 700, he is permitted to pay cash for the excess; but if he apply for more than 700 acres, his application will be cancelled, and his deposit will be forfeited.

SIMULTANEOUS APPLICATIONS FOR THE SAME BLOCK.—In this case the highest bidder among the applicants at auction will obtain the land; but the preference will be given to the applicant who undertakes personally to reside on it.

CONDITIONS.—The selector must reside personally, or by substitute, on the land during nine months of each year, until the purchase money be paid. Before the end of the second year, he must make improvements to the value of five shillings per acre; before the end of the third year, seven shillings and sixpence per acre; and before the end of the fourth year, ten shillings per acre. The improvements to consist of dwelling-houses or farm buildings, tanks or reservoirs, substantial fences, draining or clearing the land. He must plough and cultivate one-fifth of it every year until the purchase money be paid. Should he not cultivate one-fifth the first year, he must cultivate two-fifths the second year. An officer will inspect the improvements. With the consent of the governor only can he transfer or assign before the purchase money is paid; a breach of the conditions involves forfeiture of the land. Having fulfilled the conditions, at the end of five years the resident selector can pay the purchase money and obtain the fee simple; the occupier, by substitute, at the end of six years.

TOWN AND SUBURBAN LANDS.—The governor will fix the price—not less than £1 per acre—at which these shall be sold, by auction, only for cash; one-fifth to be paid at the time of sale, and the balance within one month after.

LANDS NOT SOLD AT AUCTION, after having passed the hammer, may be sold by private contract for cash or credit, at not less than the price before fixed.

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UNSELECTED LANDS, which have been open for selection one year, may be sold at auction at £1 per acre upset.

THREE THOUSAND ACRE BLOCKS may be offered on lease for ten years at an annual rental of not less than sixpence per acre, with the right of purchase at any time during the currency of the lease at £1 per acre—such leases to be sold at auction to the highest bidder, after the particulars have been laid before Parliament for thirty days. These areas must consist of lands which, under the Act, have been open for selection one year, and remain unsold, and which have been offered at auction; and all other unsold lands which have been open to the public for five years.

PASTORAL LEASES are granted beyond the limits of a "hundred" at an assessment as to capabilities of run.

SELECTORS.—The following we glean from *Agriculture in South Australia*, by the special reporter of the *Leader*—who recently made a tour throughout the colony—and which shilling pamphlet will be invaluable to any person contemplating farming in South Australia. Respecting the most thickly settled portion of the NORTHERN AREAS, he states it to be a block of about 1000 square miles, composed of the hundreds of Belalie, Cattowie, Yangya, Bundaleer, Yackamoorundi, Koolunga, Red Hill, Narridy, Chrystal Brook, and Booyoolie; to the westward of a northerly line drawn from Bundaleer Home Station to Jamestown, and occupying that portion of the Spencer's Gulf sea-board, lying between Ports Broughton and Pirie. Here are farms being daily taken up in various directions, and during the last three years, numerous townships have sprung into existence, all now presenting the most busy and flourishing appearance, in fact, he says that the scene at these townships reminds him of a rush to a new diggings; the rush being for land instead of for gold. The number of houses in each is from fifteen to fifty, including comfortable hotels and stores, both doing a brisk trade; also stripper and plough factories, flour mills, banks, schools, and churches. He describes the buildings as being of light-coloured stone, which, dotted about amongst "seas of waving wheat," present from an eminence a very pretty appearance, and "suggest thoughts as to the probable future of the colony, with such a vast area of land at its disposal, whose wonderful capabilities in the way of wheat growing, are only beginning to be found out." He points out that light railways are required to be pushed out from Ports Broughton and Pirie, to enable the wheat to be conveyed cheaply and expeditiously to the sea-board, direct from the winnowing machine; and that, although such light lines have been commenced, the works are proceeding so languidly that the selectors are impressed with the idea that hostile influence is being brought to bear with the Government in order to retard them, and so, as a squatter—alluding to cockatoo farmers,

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as selectors on squatters' runs are termed—remarked upon the effects of an anticipated drought, "Then these cockies will have to take flight, if, indeed, they should have a feather left to fly with." But we think that the earnestness of the Government in promoting the settlement of the country, is fully shown by the following policy, as enunciated in the budget, and as telegraphed on 3rd August, 1875, to the *Argus*:—

RAILWAYS TO RICH AGRICULTURAL REGIONS, &c.—The Government propose to construct the following lines of railway:—"From Port Augusta to Yudanamutana, 245 miles; Picharichi Pass to Mount Brown, ten miles; Gladstone to Wirrabarra, twenty miles; Gladstone to Jamestown, nineteen miles; Green's Plains to Barunga Gap, twenty miles; Hamley Bridge to Hallbury, twenty-two miles; Koorunga to Gottlieb's Wells, thirty-five miles; Gottlieb's Wells to Wankoringa, forty miles; Rivoli Bay North to Mount Gambier, fifty-two miles; Baker's Range to Kookatoo-lane, sixteen miles; Kapunda, to North-west Bend, fifty miles;—total, 529 miles. It is proposed to borrow £1,900,000 for these railways, being at the rate of £4000 per mile. In addition to the stamp duties, the increased taxation will include legacy and succession duties, varying from one per cent. on estates not exceeding the value of £1000, up to ten per cent. upon property over the value of £20,000. There is also proposed a tax upon banking companies, in the form of a yearly composition of £2 for every £100 worth of the average annual amount of unstamped notes issued, and a tax of sixpence in the pound upon dividends payable by public companies. The Government purpose to spend £600,000 of the proposed loan this year, and expect 2000 immigrants here by Christmas." Again—"Eleven lines in all are projected, embracing a length of 530 miles. At the head of the list is placed the railway from Port Augusta to a port 250 miles further north. From this a branch is to be carried eastward, which it is believed will form a portion of the great trunk highway across the continent, which has not yet been remitted to the region of Atlantic dreams. The rich agricultural regions skirting Spencer's Gulf, into which population has during the past three or four years been flowing with unexampled rapidity, are to be favoured with a network of iron roads, and some sixty or seventy miles of a line, which is eventually to be carried into the Barrier Ranges, are to be constructed. Between Mount Gambier and Rivoli Bay north railway communication is to be opened up, the effect of which must necessarily be to deprive Port Macdonnell of the trade which, for want of a better inlet and outlet, has gravitated towards it. Finally, Adelaide is to be connected with the Murray by an iron road extending from Kapunda, a railway terminus fifty miles from the city, to the North-west Bend. This is the highest point at which the river can be tapped with any advantage, and the

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ministry have, evidently, been influenced in selecting this route in preference to the half-dozen others which lay claim to public favour, by the fact that the cost will be less than £400,000, although the distance to be traversed is fifty miles and more. The scheme for a railway connecting Adelaide with the Victorian border is thrust into the background at present, but the Government profess to be deeply enamoured of it, as a project worthy of early attention. The line they approve will cross the Murray at the point where the bridge is now being erected, and will be carried in an almost direct course to Horsham." If this policy be carried out—the building of railways, and the introduction of free immigrants—South Australia will yet awake from her sleepy hollowdom, and take her proper place amongst the colonies, to which she is entitled by the large area of her rich colony, and the wealth of the inhabitants. There have been four good seasons, and some say that "rain follows the plough."

"IN THESE NORTHERN AREAS it is found, as it has been in Victoria and Riverina, that the selector obtains water in many places and ways, that the squatter in the vastness of his operations passed over. The selector, after the first year, is never badly off for water. With the plough and the scoop, he makes dams for his stock, and sinks a well, or makes a tank for his own use." The writer proceeds to describe the "waving wheat just bursting into ear" in blocks of 200 to 800 acres; but little stock, temporary fences, buildings hurriedly run up of stone, so built that an addition can be made, a rough shed for the horses, &c. The strippers, winnowers, and double ploughs, and wheat—"wheat, without intermission"—throughout the whole block of 1000 square miles. He says that the country is admirably adapted for the construction of cheap railways, as almost in every direction a valley can be followed, and outlet obtained through the hills to the next without much cutting; and he believes that, with cheap transit to the coast, the farmers in the northern areas, could grow wheat to pay against the world; not excepting California—where the producer calculates as profit all he obtains over two shillings and sixpence per bushel. The ploughmen receive £1 per week; and a double plough with four horses on new land, and with three on broken up, will turn over three acres per day. The South Australian ploughs are simpler than the Victorian, having no lever to throw the shares out, and are sold at £13 10s. Travelling strippers perform the work at seven shillings per acre, and the cleaning costs fifteen shillings per 100 bushels. The reporter says that a gentleman has 800 acres of wheat, and that with eight hands, within one month, it will be all bagged. The cost he calculates at fivepence per bushel; the cartage at one farthing per bushel, per mile. To reach Ports Pirie or Broughton, the distance to travel will average thirty-five miles this season; the farthest blocks being

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sixty miles north-east of Port Pirie; thence to Adelaide, 260 miles, the freight is fourpence per bushel. Last year the quantity of land under wheat in these areas, was 43,455 acres, which yielded 772,674 bushels, or an average per acre of seventeen bushels and forty-seven pounds. This year double the quantity is expected with a similar average.

RAILWAY TO NORTHERN COPPER FIELDS.—One of the projected lines of railway just announced by the Government, is to Yudanamutana, 260 miles north of Port Augusta, and by it the rich copper mines, Blinman, Sliding Rock, Daly, Stanley, and Rondra—now unworked owing to cost of land carriage—will be profitably wrought. At the time of the reporter's visit six large ships were being loaded at Port Augusta, with 3000 to 4000 bales each, and it was expected that 25,000 bales, during the season, would be shipped from runs extending 300 miles north and east of the Port. As to the land beyond Goyder's rain fall, with which he was enraptured, he remarks that this splendid tract of country is at once to be thrown open for selection, under the limited auction system, with deferred payments, and may probably fetch from £4 to £10 per acre. "This beautiful country, with its rolling valleys, and slightly timbered rises, reminded me, in the general appearance, and quality of soil, of Henty's Muntham lands at Port Fairy, and of this there is an area of about 1500 square miles, all ready for the plough, and with the exception of one or two large purchased estates, being held under pastoral leases. When this magnificent land is thrown open for selection the greater portion of the wheat will find its way to the ship through Port Augusta."

MOUNT GAMBIER.—Immediately surrounding the mount are the Gambier farms, which are described as the richest land in South Australia. Last season 12,000 tons of very fine potatoes were here raised. From the top of the mount, 625 feet above the level of the sea, a grand view of the surrounding country is obtained. To the southward, Port Macdonnell is visible, as well as Mount Schanck between; to the north, the Narracoorte country; to the west, the Southern Ocean; and to the east, dense timber rises, stretching away to the Wimmera. Underneath the mount, a superbly grand view is obtained of the three volcanic lakes. Banks 200 to 300 feet high surround the largest crater, which in circumference is four miles, and these banks are very steep and rugged. The bottom has never been sounded in the deepest part.

PENOLA is distant herefrom thirty-two miles; from ADELAIDE 270 miles; and from MELBOURNE, *via* CASTERTON, 294 miles. NARRACOORTE is thirty-two miles beyond Penola, and is fifty-six miles from LACEPEDE BAY, whilst, as the south-east coast draws in, MOUNT GAMBIER is but twenty-five miles. PORT MACDONNELL is eighteen miles from MOUNT GAMBIER, and here the coast line turns sharp round to the eastward, towards PORTLAND BAY.

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CHAPTER IX.

TREATMENT OF EXHAUSTED LAND AND OLD COPPER WORKINGS —MURRAY FLATS—MALLEE SCRUB.

GAWLER is described as one of the oldest agricultural districts, and as a beautiful little town, situated just above two streams—the North Para and South Para—which join and form the Gawler River, which flows westward into the gulf at Port Gawler, distant twenty miles. There are six agricultural implement factories; one covers six acres, employs 120 men and boys, and turns out annually 200 strippers, 150 winnowers, 100 mowers, 100 waggons, 50 horse-rakes, 50 horse-powers, besides ploughs—chiefly double furrow—chaff-cutters, rollers, corn crushers, drays and carts. The casting of ploughshares, engine and boiler work, and the making of pumping gear for the mines, is executed at a less cost than the imported articles can be sold for. An unlimited supply of good ironstone exists at the back of Gawler, in the Barossa Ranges; but, to utilise it, coals and cheap labour are requisite. The reporter informs us that the “Lady Alice Company,” besides yielding 150 ounces of gold per fortnight from a well-defined reef at 170 feet depth, is likely to turn out a rich copper mine. The system of farming for the last eighteen years in this district, has been the growing of wheat, year after year, until the soil—a red loam on the hills, with limestone cropping through, to black alluvium in the valleys—has become exhausted; and the absence of gardens, orchards, and cow-sheds, betokens that the farmers solely placed their faith on the perpetual production of wheat. The consequence is, that the lands are now untilled; the farmers who rented eighty-acre blocks at 7s. 6d. to 15s. per acre, have shifted to the northern areas; and the freeholders have sold out at £4 to £6 per acre to those greedy to hold large areas for grazing purposes. A Mr. Clement thus treats his land, resumed after exhaustion by his tenants:—He ploughs about four inches, harrows fine, and sows three cwt. of inch bones, and rolls. Twelve or fourteen pounds of seed per acre are then sown, and again harrowed. After firmly rooted in two years, in showery weather the harrows tear it about, twice a-year. The seed is imported in iron tanks, and costs eightpence-halfpenny per pound. Too close feeding is avoided, and rest is occasionally given to the lucerne. Another farmer obtains good crops by dividing his farm into halves which he fallows and sows alternately—his previous practice had been for many years on the principle of two wheat crops followed by a fallow, ploughed eight inches deep in the winter, and about half that depth for early sowing. The extent of land under cultivation last season, 1874,

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in the Gawler District, was 197,193 acres, of which 138,641 were under wheat, producing 1,361,898 bushels—an average of nine bushels and forty-nine pounds per acre.

KAPUNDA DISTRICT.—Again we continue to glean from the *Leader's* reporter:—The tier of ranges, some 2000 feet high, in rear of Adelaide falls to a series of low rolling hills at the back of Kapunda, with farms along the western slopes and over their summits down to a vast level plain to the eastward, extending to the Murray. These Murray flats are good farming soil with blocks of mallee, which, when cleared, is good wheat growing land. This sort of country is being rapidly taken up at the exceptionally low rate for scrub lands. At once the visitor, after getting out of the train, finds himself amidst chimney stacks, shafts, whims, and engine houses, in a basin covering 500 acres. After being worked since 1843, the Kapunda Copper Mine may, for a long time yet, be made to pay by an ingenious process of treating the *debris*; this, when it contains only half per cent. of copper, can be profitably treated by the agency of sulphuric acid, when such is cheaply procurable. "The old workings of the mine have, during the last few years, been washed from bottom to top in a face of 100 feet deep. This process going on at the rate of 6000 tons per month, has opened up two vast amphitheatres in the centre of the workings, disclosing the old shafts and drives, and exhibiting on the sides of the vast walls, the lodes of ore in the form of small green veins running through a whitish clay." The acid works are supplied with water from a seventy-three fathom shaft, by a powerful pumping engine at the rate of 200 gallons per minute. A fifty horse-power engine draws the trucks of stuff up an inclined railway. The clay and ore is tipped into a Chilean mill, supplied by a stream of water. It then passes into another machine—a Dufournel's—subjecting the ore to water action, as is gold in a long Tom.

The ore, now in form of gravel, passes to the acid tanks, supplied from the acid factory, in connection with the works. *Mundic* abounds in the mine, and, when crushed, is burnt in furnaces from which the fumes pass into a leaden chamber, one hundred feet long by forty feet wide and twenty feet high, where, by the action of nitrate of silver, they are condensed into *sulphuric acid*, which is conducted by leaden pipes to another tank, where it is diluted with water, and thence conducted to the tanks containing the ore; which afterwards is conveyed to the smelting works at Port Adelaide. The other work on the mine is done on the Cornish principle, by tributors, who wash and pug the ore produced at the rate of from five shillings to seven shillings in the pound value of the copper after smelting, and can make at this rate £2 per week wages. Labourers are paid 37s. per week. The ore raised by the tributors yields from fifteen to twenty per cent. of

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copper; that by the acid process, averages a half per cent.; 106 men and nineteen boys are now employed. The reporter finishes his remarks on the quality of the soil: "I was very much impressed on my inspection of the lands round Kapunda, with the uniform richness in large areas of the South Australian agricultural soil, and with the conviction that the low averages of the colony are attributable entirely to the drought of the climate and the unfair treatment of the land by the farmer. The soil is of the same red clayey loam, containing a large per centage of lime, which is to be found in the St. Arnaud, Upper Loddon, Echuca, and Goulburn Valley Districts, in Victoria, and would, with sufficient moisture and reasonable culture, give equally heavy, if not superior returns. The climate is favourable to the luxuriant production of a large number of subsidiary crops."

BURRA BURRA.—300 men are now employed washing the old workings in a similar manner to the Kapunda mode, but there is no material from which sulphuric acid can be manufactured. Upwards of 1,000,000 tons of earth during the last three years have been washed, and yielded about one and a-half per cent. copper. From an immense abyss, 120 feet deep, the earth is worked by terraces in a face, and is drawn up an incline by endless chains. A 250 horse-power engine raises 11,000 gallons of water per minute from a shaft sunk seventy fathoms, and supplies successive stages of crushers, stampers, and jiggers, through which the earth is passed. The dressed ore averages eighteen per cent. copper; and about 260 tons are monthly sent to the smelting works at Port Adelaide.

MALLEE SCRUB.—He continues upon this subject to point out that the scrub lands of South Australia are not useless, as their name implies. They consist of three sorts of soil—a *rich red loam*, with loamy clay subsoil; a hard chocolate loam of moderate depth, with lime subsoil; and a sandy soil, with stones. The first described is the richest and most lasting in the colony; the lighter mallee soils, he thinks, would grow superior barley. On the east side of the Tiers, as the range alluded to before is termed, the country begins to change from broken ranges to the flats leading down to the Murray, which average about thirty miles in width. They consist of scrub lands of the second described character—limestone—and run parallel with the range on the east side, as does the St. Vincent Gulf coast run parallel with the same range on the west or Adelaide side.

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CHAPTER X.

EXTENSIVE FARMING OPERATIONS.

THE visitor gives an admirable account of the mode of farming pursued on one of Mr. C. B. Fisher's extensive stations, consisting of 60,000 acres of purchased land—Hill River estate, eighty-eight miles from Adelaide. The sheep shorn last year numbered 50,000. The clip of merino wool ran from 9 lbs. on the wethers to $3\frac{1}{2}$ lbs. on the lambs, in the grease, or an average all round of about 7 lbs., for which an average of $14\frac{1}{2}$ d. was obtained. One two-tooth merino ram's fleece weighed $17\frac{1}{2}$ lbs., and a four-tooth, 21 lbs. The shearing-floor accommodates forty shearers. On the estate are 200 head of superior shorthorn cattle; and 200 horses are employed. "The cultivated land is in large fields, one of which is three miles long, and contains 4250 acres of wheat besides forty acres of pease, for horse feed, and a quantity of barley, as well as 1800 acres new land, turned up for fallow. Next year the land first ploughed will be three years in crop, when it is proposed yearly to lay down that which has yielded three crops in lucerne and prairie grass; and shift the wheat ground further on to new land. The ploughing was performed by thirty-four horse-teams drawing a double plough each, doing from two to three acres per day, according to the time lost in travelling to and from the work; and five single ploughs striking out." One man both drives and guides; the ploughing was eighteen inches deep. Six of Adamson's twenty-two feet broadcast machines, under the management of one man, sowed each forty acres per day. An ingenious pickling apparatus for bluestone is used, which can rapidly dip a bag at a time. "The lands are ploughed one chain wide, and are harrowed by fifteen sets of six-leaved harrows, doing a land in two turns. The harrowing is finished at the rate of 500 acres per day. The wheat is cut into 200-acre blocks, as harvest approaches, by mowing machines, cutting two chain wide strips; and then strips right round the crop are ploughed for protection against fire." Thirty-seven stripping machines are employed, each drawn by four horses, managed by one man, and which can each cut about eight acres per day. One winnower to every three strippers cleans at the headlands, and the cleaning is done by piece work. For one penny the wheat is put through once; for twopence twice. It is then carted to the blowers, screened, bagged, sewed, and passed into the barn. The wheat yielded last year fifteen bushels per acre; the pease, forty bushels; the barley, thirty bushels. In 1873 the wheat grown on this farm took the prize in Adelaide for the best 100 bushels.

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"Two large dams supply the home station with water, and there are six others in various parts of the run. This work, which is constantly being carried on, is done by plough and scoop. Sixteen acres of trees have been planted in two-acre blocks, in various parts of the run; the kinds found to do best being the Tasmanian red gum, *pinus insignis* and *sterculias*." A seventy-acre plantation is in course of preparation; and olive planting is carried on annually. Experiments are made to prove the efficiency of subsoil ploughing, and different kinds of wheat are sown to try their merits. A large quantity of manure is made, and pigs are profitably kept on the waste wheat.

The farm buildings are most complete and extensive: the barn will hold 60,000 bushels; there is a blacksmith's shop, with two forges; carpenters' and saddlers' shops, and a large number of cottages for the men. Houses contain every description of farming implement. Seventy hands are usually employed, but 200 in harvesting and shearing time. The men, according to rules posted up, rise, feed their horses, have their meals, and go to bed, as do soldiers. There are stringent rules against the use by anyone of alcohol; there is a library for the use of the men; and altogether it is described by the writer as a model farm, carried on, by aid of machinery, with a small number of men comparatively, on such an extensive scale as few in or out of Australia, we think, can be aware of; and exemplifies what can result from the energy of one man, Mr. C. B. Fisher, who owns and conducts as profitably other large stations, and to whose enterprise in breeding and rearing race horses the turf was long indebted.

CHAPTER XI.

ERNEST GILES' EXPEDITION—LEWIS' EXPLORATION OF LAKE EYRE (1875)—COOPER'S CREEK COUNTRY.

ERNEST GILES' EXPEDITION.—The *South Australian Register* says:—"Through the courtesy of the Hon. T. Elder we are able to publish a telegraphic account of Mr. Ernest Giles' latest labours in the field of exploration. It will be remembered that when he left Adelaide, early in December, it was announced that the objects of his expedition were to examine a block of country lying about 100 miles from the coast line of the Great Australian Bight, with a view of ascertaining its pastoral capabilities, and, subsequently, to achieve, if possible, his long-cherished purpose of crossing the continent to the settled districts

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of Western Australia. The journey which the explorer now reports has reference to the first part of this programme, which although the least imposing, has not been carried through without great personal risk and suffering. On several occasions last year, when obliged to turn back baffled in his attempts to penetrate westward from Fort Mueller by the arid desert which stretched interminably before him, Mr. Giles expressed in his diary eloquent regrets that he had no camels to assist him in pushing a path through the waterless waste. In the present instance he was more fortunately circumstanced in having two of those valuable animals. Since the success of the expedition thus far is mainly owing to their powers of endurance, it is not surprising to find him speaking of them in terms of enthusiastic gratitude and admiration. Now that he has safely completed the first part of his mission, it is presumable that he will apply himself to the more arduous task of finding a practicable route to Perth through the country lying between the 28th and 30th parallels of latitude."

The following is the telegram, dated 17th April, 1875:—"Reached Finnis Springs from Fowler's Bay last night. Was guided to Youldah by Mr. T. P. Richards, police trooper, of Fowler's Bay, who, through the courtesy of Mr. Hamilton, the commissioner, was allowed to accompany me there. Youldah lies 135 miles north north-west from Fowler's Bay. Mr. Richards obtained for me a native guide, who knew the country some distance east. On 24th March left Youldah, with Peter, Nicholls (my cook,) and the native guide (Jimmy,) taking three riding horses and the two camels. The guide took us first to Pylebung, an extraordinary native dam and a clay tank, with clay circular wall five feet high round it. It is a most astonishing thing, considering that it is the work of the aborigines. Pylebung was sixty-four miles nearly east south-east from Youldah. Thence to Whitegin—a small rock hole—thirty miles further on the same course. Thence nearly north-east we reached Wynbring, a fine rock hole in the crevice of granite rock, which stands about fifty feet high, and is two or three acres perhaps in extent. Youldah, Pylebung, Whitegin, and Wynbring are all in the densest of dense scrubs, consisting of heavy red sandhills with thick mallee, mulga, acacia, Grevillea, casuarina, hakea, and spinifex; the dead underbush so thick that the camels could scarcely move along. Wynbring was 100 miles from Youldah, and lying 10° south of east from it. From here the guide knew the country no further, and declared that beyond this point there was 'nothing, nothing.' Leaving Wynbring we came 220 miles through the most terrific scrubs, with an open streak of thirty miles between, to a claypan, with water in it, and that saved us. The three horses died of thirst—one at sixty-five miles, one at 150, and the last at 168 miles. The camels

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carrying water, we gave the horses as much as possible till we were reduced to three pints. The heat was great, the thermometer day after day standing at 102° in the shade. It was impossible to travel at night, as in the darkness we should have left every eye on sticks in the scrub; the 220 mile stretch from Wynbring to the claypan was done in eight days, the camels averaging twenty-eight miles per day. They are wonderful, awe-inspiring, and marvellous animals. I never praised God so much for anything before, and for such creatures I thank you and praise Him. Having found water, our progress was easy, each walking and riding by turns. I just touched upon the edge of Lake Torrens. From what I have seen I judge that there exists a vast desert of scrub of a triangular form, the base of which is at or near the western shores of Lake Torrens, and the sides running north-westerly from the southern foot, and most probably west from the northern cone to an apex at no great distance from my starting-point, Youldah, and I think a line north therefrom would pass through it in but a short distance. The way I came was nearly along its greatest length. It consists of two deserts, divided by a strip of open country about thirty miles broad. The western and denser I have named Richards' Desert, in gratitude to Mr. Richards for his own and his native's guidance; and the eastern I have called Ross' Desert, as it was that which baffled Mr. John Ross, who got through the eastern, but never entered the larger western. I shall hasten to Beltana, and am quite confident of the successful issue of the expedition."

The following has reference to Mr. Giles's interesting journal, lately published:—"Starting from that remarkable natural monument discovered by Stuart, and by him named Chambers' Pillar, he, in his first journey, traversed and laid down about a thousand miles of previously unknown country, and had to encounter the hardships and privations which appear to be inseparable from the exploration of the interior of this continent, owing to the absence or the capricious and precarious supply of fresh water. His second expedition had for its starting-point the junction of the Stevenson and Alberga Creeks, on the main overland telegraph road, rather more than two degrees south of the former point of departure, and, taking a westerly direction, Mr. Giles and his companions penetrated beyond the 126th degree of east longitude, passing through some beautiful country, as well as much that was precisely the opposite. Occasionally the travellers entered well-watered valleys, with the scenery of which they appear to have been perfectly fascinated; and their leader lost no opportunity of planting the seeds of trees, cereals, fodder plants, and vegetables, wherever the soil and climate seemed to be propitious."

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LEWIS' EXPLORATION OF LAKE EYRE (1875.)—The *South Australian Register* states that "the expedition which was despatched by the Government for the exploration of Lake Eyre and the surrounding country appears to have been completely successful. Advices have been received from Mr. Lewis, the leader of the party, dated 23rd March, announcing the safe arrival of the expedition at Kopperamana, the Lutheran Aborigines Mission Station, in the Lake Hope district. The information supplied only describes the general results of the exploration, but it is sufficiently definite to show that Mr. Lewis has accomplished the task that was entrusted to him. During the months that he has been away he has succeeded in examining and mapping the hitherto almost unknown territory lying between latitudes $25^{\circ} 35'$ and $28^{\circ} 35'$, and longitudes $135^{\circ} 50'$ and $139^{\circ} 50'$. This comprises a block of country about 200 miles across, extending from Lake Hope to Eyre Creek, in Queensland, and about 250 miles broad, stretching from the overland telegraph line to Sturt's Stony Desert. Mr. Lewis has, consequently, been able to investigate the whole of the unexplored portion of Lake Eyre, and to define its most northern limit. He reports that at the time of his visit the lake was perfectly dry, but whether this refers to its entire extent or simply to its northern half is not quite clear. From a point north-west of the lake Mr. Lewis pushed his way across to Sturt's original route to the north-east, and he also appears to have traced the Barcoo, or Cooper's Creek, along its most eastern course, and to have solved the relation in which that watercourse stands to Lake Eyre. Before he completes his work he intends, if possible, to discover a practicable route between the south-west portion of Queensland and the north-west of New South Wales, with a view to establishing direct overland communication between the former colony and South Australia. Either the full strength of the party is not deemed necessary for this exploration, or their stores need replenishing, for two of the Affghans, with six camels, are reported to have been sent back to Beltana. The health of all the members of the expedition has been good, with the slight exception that the leader and Mr. Beresford have suffered from bad eyes. No particulars are furnished as to the nature of the discoveries that have rewarded Mr. Lewis for his labours, or the character of the country through which he has passed."

COOPER'S CREEK COUNTRY.—"Low sandhills, well grassed, with here and there a stretch of flat country covered with cotton bush of great luxuriance, are the chief features of the country north of Wills' grave for a distance of forty miles. Now and then a creek is met with, but in this dry season all are dry, with the exception of Derraderrawanting (twelve miles from Cooper's Creek,) Catchecumbe (twenty-four miles,) and Dirrokelly (forty miles.) The latter is a very fine creek, with a deep channel for a mile in length,

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and being in the middle of the finest pastoral country that could be imagined, will, no doubt, be made available for stock ere long. North-west from here the country, after five or six miles, changes suddenly to high barren sandhills, with little or no vegetation beyond *spinifex*, and for ten miles there is but little change for the better. From the top of one of the high red sandhills you get the first glimpse of Milka Lake, which in such a dry country is a very cheering sight. Descending from the sandhills to the edge of the lake we could see that the water had been much higher, from the flood marks, but it was still deep enough to prevent a very lengthy examination of its depth on horseback. The water, although not so sweet as could be wished, was sufficiently palatable to use, and we lived on it for the next twenty-four hours. There are two wings to the lake, each of them five or six miles in circumference, and on the edge, when the water has receded, the wild clover and grass is abundant. This is evidently a great camping-place for the blacks. Their tracks are all round the lakes like cattle pads, and many other evidences are met with of there being a large and settled population in the vicinity. On getting round the lake to its western side we came upon one of the camps, recently deserted. A number of dogs were still prowling about, and the fires had been put out with water, proving that our approach had been noticed. No blacks were at first visible, but upon going to the top of the adjacent sandhills the blacks were seen in great numbers making off along the lake. There must have been some hundreds of them, as near as I could estimate, and as I wished to let them understand that we meant them no harm, Paddy, a young blackfellow who had been picked up at Cooper's Creek, was sent after them on foot, as he could speak to them in their own language. After going some distance cooeing to the frightened blacks, Paddy succeeded in inducing two of the warriors of the tribe to stop till he reached them, and upon discovering in him 'a friend and brother,' they received his assurances of our friendliness with some confidence. They returned to us with Paddy, although for some time nervous and excited, gesticulating vehemently, and talking in their, to us, unknown tongue. They were soon persuaded of our not intending to injure them, when they threw down their weapons and accompanied us back to where we purposed camping. Although a watch was kept all night we were not disturbed in the least, and before we had saddled up in the morning the tribe was congregating from all quarters, eager to secure some of the gaudily-coloured handkerchiefs which I distributed among them. I had every confidence in the blacks not molesting us, but at the same time kept a close eye upon them in case of accidents. Each man had his shooter ready, but neither here nor throughout our travels were we called upon to use them in self-defence. Indeed,

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the blacks were more frightened of our party than we had calculated upon, and everywhere were quite friendly as soon as they recovered from their fright. Leaving Milka, the two blacks who had at first made friends with us volunteered to accompany us on foot. One of them, a tall, well-made man, nearly six feet in height, I named Jack Heenan, and was at once required to give a number of the others 'whitefellows' names.' With our new attendants we went on in a north-west direction, and found ourselves in a complete network of lakes. For about a week we travelled round them, and found the largest one about twenty-five miles in circumference—a magnificent sheet of water, but not so deep as some of the smaller ones. All these lakes are connected by creeks, some of them wide and deep, and the country adjacent, unlike that to the eastward of Milka, is of the very best description for grazing purposes. On the dry edges of the lakes the clover is very thick, while on the sandhills and flats feed of all descriptions is abundant. One strange feature is the scarcity of animals—kangaroos and emus are seldom met with, and even the ubiquitous native dog is rarely seen. I can only account for this from the blacks being so numerous. They literally swarm all over the country, living upon fish principally, and any animals they can get. They are well made, strong, and active looking, and do not, evidently, suffer much from the pangs of hunger. They remind me more of the Murray blacks than any others I have seen. As there was little inducement to go further west in such dry hot weather, a course was shaped for the main branch of Cooper's Creek again, which was struck about fifty miles below the camp we had formed there. In the course of the journey we came across a black who belonged to Lake Hope, and as he could speak English well we obtained a good deal of information from him. He told us we were not far from where the tracks of cattle could be seen, so that we were not a great way from the outside stations of Mr. Elder, in South Australia. At this distance down Cooper's Creek it is not nearly as good as higher up. The channel becomes much less as the water is spread over a large area of flat country, and the large waterholes of miles in length have become curtailed greatly of their proportions. Still there is any quantity of water to be found even in this dry season. Streletzki's Creek, which is the southern branch of Cooper's Creek, and the first offshoot below Innaminka, has a wide, deep channel, but the water is now rather scarce, and the distance between the waterholes is great. In any ordinary season, however, there would be no want of water for stock, and much of the country is very fine. Messrs. H. and N. Wilson, of the Wimmera, Victoria, have taken up a large tract of country to the north of Cooper's Creek, and Mr. Joseph Becker, of Bourke, and Mr. Michael McAuliffe, of the Warrego, have extensive frontages to Streletzki's

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and Cooper's Creeks; stocks for all of which will soon be on the spot. This portion of the South Australian territory will now speedily be settled, and it appears to offer a promising field for pioneers. The distance to Port Augusta, in Spencer's Gulf, is not great for carriage, while the proposed railway extension northwards in South Australia will bring what is now a *terra incognita* within easy reach of Adelaide. A practicable route to the Darling at Menindie is also said to be possible, which would then command the Melbourne market for stock. On the whole, with an unlimited area for pastoral purposes, and water advantages unequalled in Central Australia, this part of South Australia is destined to occupy no mean position in the future. There will, no doubt, be many difficulties for the first settlers to contend with, and which are peculiar to all new countries. The blacks being so numerous, and, physically, of a somewhat more elevated type than the generality of Australian aboriginals, will, no doubt, make some difficulty. The treatment to which they have been subjected by some of the outside Queensland settlers, and which deserves the severest condemnation from anyone professing to have the slightest acquaintance with the usages of civilisation, has hardly been of such a character as to cause the untutored savage to have a very high regard for his white brother, or to be impressed strongly with the desirability of a closer acquaintance with him. It is, however, fortunate that the South Australian Government has taken some interest in the welfare of the possessors of the soil, who are likely to be driven from their hunting grounds by the advance of the white man. In South Australia blacks are not allowed to be butchered wholesale, in cold blood, by every ruffian who can supply himself with a gun and ammunition, nor are the unfortunate blacks who have been deprived of their heritage left without food or clothing, and otherwise totally neglected. The South Australian Government have, in this respect, set an example to the other colonies which is well worthy of being followed. Had the same humane course been pursued in other instances, there would probably not have been such a long list of cases to refer to, in which white men have become the victims of revenge on the part of the blacks, and for which there was perhaps not a little justification."

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CHAPTER XII.

AUSTRALIAN TIME—TELEGRAMS—ACROSS THE CONTINENT TO PORT DARWIN.

		H. M. S.		
Noon at Alexandria is	..	7 14 52	p.m. at Adelaide.	
" Aden	..	6 14 0	"	"
" Bombay	..	4 22 30	"	"
" Bangkok	..	2 32 32	"	"
" Batavia	..	2 7 40	"	"
" Berne	..	8 44 36	"	"
" Berlin	..	8 20 48	"	"
" Buda	..	7 58 12	"	"
" Christiana	..	8 31 9	"	"
" Constantinople	..	7 18 24	"	"
" Colombo	..	3 54 48	"	"
" Calcutta	..	3 20 48	"	"
" Dublin	..	9 39 0	"	"
" Edinburgh	..	9 27 4	"	"
" Falmouth	..	9 34 29	"	"
" Gibraltar	..	9 35 48	"	"
" Lisbon	..	9 51 0	"	"
" London	..	9 14 44	"	"
" Madrid	..	9 29 12	"	"
" Malta	..	8 16 16	"	"
" Madras	..	3 53 24	"	"
" Moulmein	..	2 43 56	"	"
" Naples	..	8 10 20	"	"
" Nagasaki	..	0 34 32	"	"
" New York (Next day)		2 12 0	a.m.	"
" Paris	..	9 5 0	p.m.	"
" Penang	..	2 34 4	"	"
" Port Darwin	..	0 30 20	"	"
" Rome	..	8 22 24	"	"
" Stockholm	..	7 52 8	"	"
" St. Petersburg	..	7 12 36	"	"
" Suez	..	7 4 8	"	"
" Singapore	..	2 18 56	"	"
" Shanghai	..	1 8 32	"	"
" San Francisco (Next day)		4 59 0	a.m.	"
" Vienna	..	8 8 48	p.m.	"

The above is from Boothby's Adelaide Directory.

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DIFFERENCE OF LOCAL TIME BETWEEN ADELAIDE AND FOLLOWING PLACES.

	H.	M.	S.
† Perth	1	30	50
† King George's Sound	1	22	46
* Melbourne	0	25	34
* Launceston	0	34	19
* Hobart Town	0	35	5
* Sydney	0	50	30
* Brisbane	0	57	47
* Townsville	0	32	51
* Rockhampton	0	48	31
* Cooktown	0	26	39
* Cape York	0	15	55
* Normanton	0	9	19
* Albert River (Burke)	0	4	19
† Port Essington	0	25	38
† Port Darwin	0	30	20
† Nickol Bay	1	27	41
* Otago (Dunedin)	2	7	47
* Auckland	2	24	59
* Christchurch	2	15	39
* Nelson	2	18	55
* Wellington	2	24	35

The * shows the time to be later, and the † earlier than at Adelaide.

E. J. WHITE,

Acting Government Astronomer.

Melbourne Observatory, July, 1875.

OVERLAND AND INTERCOLONIAL TELEGRAPH TARIFF.—For ten words, exclusive of name and address:—

Adelaide to Port Darwin, 10s., and 9d. per additional word.

„ New South Wales, 2s., and 2d. „

„ Victoria, 2s., and 2d. „

„ Queensland, 3s., and 3d. „

„ Tasmania, 3s., and 3d. per additional word, in addition to cable charge of 4s. for ten words, and 2s. for every five words additional.

CABLEGRAM TARIFF.—The following are the present rates, which (if subsidised) the company has consented to reduce—when ten words can be sent to London for £3, and 6s. each additional word.

Adelaide to California, in addition to the Australian rate to Port Darwin, and also to that of the Cable Company to London—for ten words, inclusive of name and address, £2 8s. 4d., and 4s. 10d. per additional word.

Adelaide to New York, in like manner to California—£2, and 4s. per additional word.

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✓ Adelaide to any part of South Australia proper—1s., and 1d. per additional word—with exception of Adelaide Port and Peninsular Line, which is 6d. for first ten words, and 1d. per additional word.

Adelaide and from any South Australian Station, for twenty words, inclusive of name and address:—

To London	£9 6 6
„ Aden	9 0 6
„ India	7 0 6
„ China	7 9 6
„ Singapore	4 19 6
„ Java	3 15 0
„ France	9 4 0
„ Spain	9 6 0
„ Russia	9 4 0
„ Germany	9 3 0

Half these rates for every additional ten words.

ACROSS THE CONTINENT TO PORT DARWIN.—“Starting from Port Augusta, the telegraph line goes over a long stretch of plains till it passes the south end of Lake Torrens, and then the country is broken by ranges, spurs, and creeks. The first station is at Beltana, the name of a squatter's run; this point being about 150 miles from Port Augusta, and 355 miles from Adelaide. After this the line still runs parallel with the lake, then round south of Lake Eyre, and then northwards, crossing rivers, ranges, and plains, till Mount Margaret is passed. This distance, 600 miles, was the section contracted for by Mr. E. M. Bagot. Most of the route so far is stony, and the country desolate looking. Timber was scarce, and poles, both wood and iron, had to be carted distances up to 400 miles. The country improves as Macdonnell Ranges, latitude about 23° 30', is reached; and there is beautiful pasturage here, eminently suitable for horse breeding. After this, table land, plains, ranges, and scrub are passed over. The country is well wooded, and for most of the central division, poles were got within easy reach. At about latitude 19° 30' it is tolerably high ground, and is well timbered all the way to Port Darwin, in latitude 12° 28'. The character of the country in the northern division varies very much. Some of it is stony and worthless; some splendid feeding ground. Large tracts are well adapted for tropical cultivation. Beautiful ranges are passed through, and creeks and rivers crossed; some of these, however, drying up in exceptional seasons.”

TRANS-CONTINENTAL STATIONS AND DISTANCES, corrected by Mr. Surveyor R. H. H. Knuckey:—

	Miles.
From Adelaide to Beltana	355
„ Strangway's Springs	545
„ Peake	636
„ Charlotte Waters	804
„ Alice Springs	1036

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	Miles.
From Adelaide to Barrow's Creek	1207
" Tenant's Creek	1354
" Powell's Creek	1467
" Daly Waters	1605
" Katharine	1765
" Pine Creek	1822
" Shackle (seven miles from Yam Creek)	1852
" Southport	1932
" Port Darwin	1973
From Adelaide to Port Augusta	220
From Port Augusta to Port Darwin	1753
	<u>1973</u>

OVERLAND TELEGRAPH.—The credit of inaugurating the construction of the telegraph line across the continent is due to Mr. Charles Todd, the South Australian Postmaster General and Superintendent of Telegraphs, whose persistent advocacy for years of the feasibility of constructing the line at last induced the government to undertake it. The Resident Superintendent at Port Darwin is Mr. Little, who is also Postmaster and Controller of Customs at Port Darwin, and most indefatigable is he. At one time we have seen him, on receipt of the mail, immersed in heaps of letters; at another, buying revolvers for the line repairers; then making contracts with men to proceed inland hundreds of miles. We have seen him examining the iron poles at Southport, and in a few days afterwards have met him 120 miles up the country, surveying the ravages committed by the white ant on the telegraph posts, and watching the progress of the iron re-poling. The telegraph poles have suffered considerably; they had been erected but two years, and we saw many dangling from the wires, having been eaten through by the *termiles*, but an extra iron pole is being placed between every two wooden poles, and ultimately it is intended to replace the latter by iron poles. The line has been faithfully built, and is quite equal to any colonial line. In November, 1873, they had re-poled as far as Yam Creek, and were pushing ahead. These iron poles are circular tubes, four or five inches in diameter, in two lengths. The lower has a double shoe or flange, which is firmly imbedded in the ground, and the upper length is screwed into the lower, and when erected the pole is twenty feet high. The operators and line repairers must lead a dreary and monotonous life; they are stationed every 150 to 200 miles across the continent. The latter are rationed and paid seven shillings and sixpence per day, Sundays included, and are allowed soap and tobacco, and a monthly telegram free to Adelaide and back. Whenever a breakage occurs in the line two

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men start from either station between which the fault exists; each party takes, besides a supply of wire, &c., a field instrument, and at every thirty miles a "shackle" is put down, and the party communicates with its own station, and so each proceeds until one or the other finds and repairs the defect, when, the same having been communicated to the other party from the station, both take up their instruments and retrace their steps without having seen each other. At every station there are usually two operators and four line repairers. This gigantic undertaking which has been so successfully carried over 1973 miles, at a cost of £382,000, by South Australia, enables all the colonies to communicate with the world at large. Adelaide has furnished several bands of daring explorers, but to none is more praise due than to the overland telegraph construction party—about 300 men—for on mere colonial wages, about thirty or forty shillings per week, they risked health, as some suffered from fever, dysentery, and scurvy; and on the scantiest food, they had to encounter the wet season, hemmed in on all sides for many weeks, and cut off from supplies. One task every morning being to drag out by ropes the horses helplessly sunk in the sodden ground overnight; the intelligent animals disliked to quit the beaten track to seek for pasturage, and trembled violently when the ground sank beneath them. Some fancy the bonus ultimately awarded was far from commensurate with their privations; and that it did not even amount to the sum saved to the government, or to the contractors, by the unavoidable starving of the men.

PORT DARWIN: CHARACTER OF THE COUNTRY.—The *South Australian Advertiser* remarked when the line was being laid out:—"Private letters give most interesting accounts of the character of the country through which the telegraph line runs, and of discoveries made by Mr. W. McMinn's party. The advance party had pushed on to the River Katherine, about 200 miles from Port Darwin, and were there detained by the flooded state of the river, the rainy season being at its height. The Katherine—a stream discovered by Stuart—is nearly twenty chains wide from bank to bank, and flows in a south-west course. The country beyond is high, dry table-land. The line at the latter end of January had been poled for 190 miles, but the wire was not up so far, the means of transport being insufficient. At this point there was a very fine creek. The line traversed the land survey for seventy miles, and afterwards Mr. McMinn explored the country, and laid out the route. It then went through fine country, with plenty of timber, and ground that could be carted upon, except in times of floods swelling the rivers and large creeks. The country inland is undulating and hilly, quite different to the low-lying flat country near the coast; in fact this was the principal difficulty in picking a way for the poling parties through the numerous high ranges cropping up in

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all directions. Detached pieces of table-land lie to the south of the line at no great distance. Three fine rivers were discovered, and named the Fergusson, the Edith, and the Cullen, and numerous fine creeks, one of the largest of which was christened the Stow. All this group of streams take their rise under the table-land and the high ranges in the vicinity, and trend to the south-west. The Fergusson is the largest of all, and it is thought the rest join it; the waters so accumulated either flowing into the Daly River, or forming lakes at its head. The Daly, it will be remembered, empties itself into Anson Bay. The Edith takes its rise in a highly elevated valley among the rough ridges of table-land. It is a considerable and permanent stream, for miles forming a series of waterfalls, with fine reaches of water crossing several valleys, and afterwards falling into a beautiful reservoir at the base of the table-land, and then flowing out again and onward. The reservoir is backed by sandstone perpendicular cliffs, 200 to 300 feet in height, the country on the opposite side being open. The scenery along this valley is altogether very romantic and beautiful. Large turtles were seen in the reservoir, besides guardfish, resembling the salt water species in form and size. About 130 miles from Port Darwin, close to the line, and on a stream called Yam Creek, one of the party discovered dray-tracks. Similar tracks were afterwards seen fifty miles further on; afterwards, on the Katherine River, 202 miles from Port Darwin; and again near Mount Cunningham, twenty miles nearer the port. They were at first variously stated as being from five to ten years old, but Mr. McMinn considers they are not above eighteen months old, and that they evidently were made by some party from Queensland or South Australia attempting to reach the settlement. Near Yam Creek he met with a tribe of natives camped, and observed in their possession a new blue blanket, a new billy-can, and a nail tin, and he believes these belonged to the party who made the tracks, as the blacks there did not communicate with those of the Port Darwin district. On ascending Mount Cunningham, a mound of stones was discovered on the summit, regularly built in a circular form, some two feet high. This may have been the work either of the party with the drays, or the natives. The whole affair as to the dray-tracks is involved in mystery. As the line was carried inland the natives became less numerous and the game scarce. One black endeavoured to spear a member of the survey party as he was drinking at a waterhole, but another white man appearing he was frightened away. It is not expected that the blacks will interfere with the line, as a number of them have been submitted to powerful electric shocks from the batteries, and have a wholesome horror of the wire. They say that one of their number was killed in the bush by touching it during a thunder-storm. They fully understand that the object of the telegraph

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is to enable the whites to converse with their fellows at a distance. There is inland from the coast a very deadly species of snake, said to be common in Ceylon. A horse bitten by one of these reptiles died in ten minutes. Mr. McMinn had a very narrow escape from being bitten by a young specimen of these creatures. Putting on one of his boots, he found something under his foot, and was obliged to take the boot off, when a small snake of the kind we mention was discovered in it. Fortunately the animal had been too much squeezed to be able to bite. The climate of the interior is very superior to that of the coast. Flies were very troublesome, but mosquitoes not at all so, and there were no sandflies, this being accounted for by the high and dry nature of the land."

TABLE OF DISTANCES OF PLACES TOUCHED AT ON PASSAGE FROM PORT DARWIN TO ADELAIDE, *via* SINGAPORE.

Compiled by a Cable Operator at Port Darwin.

From Port Darwin read the table from right to left, when the lines lengthwise represent the distance of each port from that at commencement of the same line. From Adelaide read the table from left to right, then the columns downwards represent the distances of all the ports included above and on the same line.

From Adelaide—

To	1050	King George's Sound to
"	4380	3330 Galle to
"	5974	4924 1594 Singapore to
"	6514	5464 2134 540 Batavia to
"	6764	5704 2374 780 240 Samarang to
"	6944	5894 2564 970 430 190 Sourabaya to
"	7364	6314 2984 1390 850 610 420 Macassar to
"	7854	6804 3474 1880 1340 1100 910 490 Timor Koepang to
"	8304	7254 3924 2330 1790 1550 1360 940 450 Port Darwin

(Some of these are but approximate.)

TIME OF TRANSIT, INCLUDING STOPPAGES.

From Port Darwin to Timor, by schooner, 21 days; by steamer, when running, 3 days.

From Timor to Batavia, by steamer, 13 days.

" Batavia to Singapore, by steamer, 3 days.

" Singapore to Galle, by steamer, 6 days 12 hours.

" Galle to King George's Sound, by steamer, 14 days.

" King George's Sound to Adelaide, by steamer, 4 days 4 hours.

FARES.

Timor to Batavia, by Dutch steamer,	380 Guilders or	£31	13	4
Batavia to Singapore	.. .. .	10	2	6
Singapore to Galle..	.. .. .	18	0	0

TIME OF DEPARTURE OF THE DUTCH STEAMERS.—The Singapore agent advertises in the *Free Press*:—"The voyage to the Molucca Islands is made monthly; the steamer leaving Batavia on the 16th, and Sourabaya on the 22nd, proceeds to Macassar, and

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thence *viâ* Menado, Ternate, Boeroe, Amboina, Banda, Timor-Delhi, and Timor-Koepang, back to Macassar and Sourabaya, in the months of January, March, May, July, September, and November; and in the alternate months of February, April, June, August, October, and December, the route varies from Macassar, *viâ* Timor-Koepang, Timor-Delhi, Banda, Amboina, Boeroe, Ternate and Manado, back to Macassar and Sourabaya; the voyage from Sourabaya and back lasting about twenty-five days, during which time the passengers may remain on board at all the ports of call if they prefer it. The stay at each place is from twenty-four to forty-eight hours, giving ample time to all to see what is interesting, or to transact business. Passengers desiring to make the voyage from Singapore *viâ* Batavia and Sourabaya to Macassar and the Moluccas, and back to Singapore, will be charged for the round £82 or 380 dols., the return ticket being available for three months, which will give time also for visiting the interior of Java. On the north coast of Java there are steamers leaving Batavia and Sourabaya on the 5th, 10th, 15th, 20th, 25th, and 30th of every month, calling at intermediate ports. Between Batavia and Padang steamers run three times a month, calling at intermediate ports on the east and south-west coast of Sumatra, and leave Batavia on the 10th, 20th, and 30th of each month; a fortnight will suffice for passengers to visit from Padang the magnificent highland scenery of Sumatra."

CHAPTER XIII.

CABLE ROUTE—From Port Darwin to India and England as follows:—

	Miles.
To Banjoewangi (first landing east coast of Java)	1186
Thence to Batavia Land line	480
" Singapore	565
" Penang (Straits of Molucca)	405
" Madras	1409
" Bombay Land line	600
" Aden	1819
" Suez	1462
" Alexandria Land line	224
" Malta	924
" Gibraltar	1120
" Falmouth (England)	1154
Total miles	<u>11,348</u>

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The length of cable, including slack	^{Miles.} 10,044
Land lines	1304
Total miles		<u>11,348</u>

INTERCOLONIAL TELEGRAPHIC ROUTE—From Port Darwin (the cable landing place) through South Australia, Victoria, New South Wales, and Queensland, to Normanton, the terminus of the gulf line:—

NORTHERN TERRITORY AND SOUTH AUSTRALIA PROPER.

Port Darwin to Port Augusta, southward ..	Land line	^{Miles.} 1753
Port Augusta to Adelaide, southward ..	"	220
Adelaide to Mount Gambier (Victorian Boundary Station,) east	"	270

VICTORIA.

Mount Gambier to Melbourne, south-east ..	Land line	300
Melbourne to Albury (N.S.W. Boundary Station,) north-east	"	200

NEW SOUTH WALES.

Albury to Sydney (Port Jackson,) north-east ..	Land line	380
Sydney to Tenterfield (Queensland Boundary Station,) north-east	"	380

QUEENSLAND.

Tenterfield to Brisbane (Moreton Bay,) N.E. ..	Land line	175
Brisbane to Maryborough (Wide Bay,) N.E. ..	"	150
Maryborough to Rockhampton (Keppel Bay,) north-west	"	320
Rockhampton to Bowen (Port Denison,) N.W. . .	"	350
Port Denison to Townsville (Cleveland Bay,) north-west	"	115
Cleveland Bay to Cardwell (Rockingham Bay,) north-west	"	100
Rockingham Bay to Normanton (Gulf of Carpentaria,) due west	"	480

Total length of land line 5193

Direct line from Adelaide to Sydney is almost due east	<u>800</u>
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TASMANIAN ROUTE.

				Miles.
Melbourne to Flinders, due south	Land line	75
Flinders to Low Heads	Cable	210
Low Heads to Launceston	..	..	Land line	45
Launceston to Hobart Town	..	..	"	120
				<hr/>
				450

OCEAN DISTANCES NORTH AND SOUTH OF AUSTRALIA.

NORTHWARDS.

				Miles.
From Adelaide to King George's Sound	..	..	..	1020
Thence to Galle	..	..	..	3100
				<hr/>
				4120
From King George's Sound to Perth	..	..	..	320
" " " " " " " " " " " "			Galle direct..	3300
" North-West Cape (West Australia) to				
Java Head (Angier)	..	..	..	1000

SOUTHWARDS.

From Adelaide to Melbourne	..	..	..	505
From Melbourne to Sydney	..	..	..	560
From Melbourne to Newcastle	..	..	..	645
" Sydney to Brisbane	..	..	..	503
Thence to Rockhampton	..	..	..	455
" Townsville	..	..	..	431
" Cooktown	..	..	..	264
" Somerset, harbour of refuge				
at entrance of Torres Straits, about				
eighty miles from south coast, New				
Guinea	..	..	..	376
From Melbourne, by Somerset, touching at all the ports				<hr/>
				2674

TORRES STRAITS MAIL ROUTES.

Via SINGAPORE.

				Miles.
From Adelaide to Melbourne	505
Thence to Newcastle	645
" Somerset	1660
" Timor	1110

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				Miles.
From Timor to Sourabaya	705
Thence to Batavia	370
" Singapore	520
" Galle	1490
				<hr/>
				7005
				<hr/>

Via BATAVIA.

From Adelaide to Melbourne	..	..	..	505
Thence to Newcastle	..	..	..	645
" Somerset	..	..	..	1680
" Timor	..	..	..	1110
" Sourabaya	..	..	..	705
" Batavia	..	..	..	370
" Galle	..	..	..	1770
				<hr/>
				6765
				<hr/>

The above is compiled from Pugh's Queensland Almanac.

SUEZ MAIL ROUTE.

				Miles.
From Galle to King George's Sound, West				
Australia	..	..	..	3300
Thence to Glenelg, South Australia	..	..	..	1010
" Cape Otway, Victoria	..	..	..	1190
" Port Phillip Heads	..	..	..	60
" Hobson's Bay	..	..	..	32
				<hr/>
				5592
				<hr/>
From Hobson's Bay to Tasmania (Launceston)				276
From Victoria (Corner Inlet) to New Zealand				<hr/>
(Bluff) .. .. .	..	..	..	1200
From Victoria (Port Albert) to New Zealand				<hr/>
(Nelson) .. .. .	..	..	..	1310
From New South Wales (Sydney) to New				<hr/>
Zealand (Nelson) .. .. .	..	..	..	1180
From New South Wales (Sydney) to New				<hr/>
Zealand (Auckland) .. .. .	..	..	..	1315
				<hr/>
From Victoria (Melbourne) to Levuka (Fiji) ..				2160
				<hr/>
From New South Wales (Sydney) ..				1730
				<hr/>
From New Zealand (Auckland) ..				1180
				<hr/>

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CABLE TO NEW ZEALAND FROM AUSTRALIA.—In accordance with the agreement entered into with the Cable Company by Sir Julius Vogel, a cable is, with the utmost possible despatch, to unite some northern point of the Middle Island of New Zealand with Sydney. For ten years New Zealand is to pay an annual subsidy of £5000, and New South Wales, £2500; and the tariff is to be seven shillings and sixpence for ten words, and ninepence for each additional word; but if during any six months the messages average 200 a day, then the charges are to be five shillings for ten words, and sixpence per word additional.

REDUCTION OF CABLE RATE.—It is also stipulated that, provided the interested colonies amongst them subsidise the company to the extent of £20,000 per annum for ten years, the cable rate from Port Darwin to England shall be reduced to £3 for ten words, and six shillings for each additional word; and it is to be hoped for the general good that such reduction will be effected by united action of all Australia, as the present is almost a prohibitory tariff—except to rich business men. It is £9 6s. 6d. from England to Adelaide, thus apportioned—£1 for the overland route; 4s. to Java; 8s. to India; £2 6s. to the Eastern or Hindoo European Company, whichever is employed between India and London; the balance £5 8s. 6d. goes to the Cable Company, which now agrees to take £1 3s. for ten words in place of £5 8s. 6d. for twenty words; and also to establish a rate throughout of six shillings a word after the first ten words.

CHAPTER XIV.

ROUTES TO EUROPE FROM AUSTRALIA.

There are five modes of reaching the old country—

1. *Via* Point de Galle, whence lines branch off to India and China.
2. „ Torres Straits.
3. „ Cape of Good Hope.
4. „ Cape Horn.
5. „ San Francisco.

POINT DE GALLE ROUTE.—Steamers leave Melbourne (the terminus,) every four weeks; in two days they arrive at Adelaide; in seven days at King George's Sound, where they coal; and in twenty-two days Galle (Ceylon) is reached.

AUXILIARY STEAMERS.—From Ceylon one line branches off across the Bay of Bengal, through the Straits of Malacca, to Singapore, up the China Sea to Hong Kong and Shanghai; and

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another line runs from Hong Kong to Yokohama (Japan.) A second line from Ceylon branches off to Madras and Calcutta, which is reached in eight days. The steamer from Australia—having transferred her mails to the through steamer—goes on to Bombay, to which also is a direct line from Aden, at the entrance of the Red Sea.

Passengers from China, *cum* Australians, proceed on to Aden, up the Red Sea, through the canal cut across the Isthmus of Suez, and—taking passage at Port Said, ninety-two miles from Alexandria—then can traverse the Mediterranean Sea, touching at Malta, Gibraltar, and on to Southampton; or from Alexandria they can take steamer to Brindisi, Ancona, and Venice. From Ceylon they reach Aden in nine days; Suez in sixteen days; Port Said in seventeen days; Malta in twenty days; Gibraltar in twenty-four days; and Southampton in thirty days—the whole voyage from Melbourne occupying fifty-four days, or by way of Brindisi, and steamer from Alexandria, forty-eight days—the mail being forwarded in forty-five days.

Fares by P. and O. Company's steamers from Melbourne—exclusive of Egyptian transit, £3, and of wines, &c.:—

	First-class.
To Glenelg (six and a-half miles from Adelaide by rail)	£6
„ King George's Sound.. ..	15
„ Ceylon	40
„ Aden	45
„ Port Said, Ismalia, or Suez	70
„ Malta	78
„ Gibraltar	83
„ Southampton	88
„ Brindisi, Ancona, or Venice	80
„ Bombay	40
„ Madras	40
„ Calcutta.. ..	45
„ Penang	50
„ Singapore	55
„ Batavia	65
„ Hong Kong	65
„ Shanghai	75
„ Yokohama	75

September, October, and November are the warm months, when the heat is most oppressive in traversing the Red Sea; during the other months the temperature is more supportable, though not very cool.

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CONTINENTAL RAILWAY FARES:—

From Venice to London *viâ* Calais and
Dover; or *viâ* Boulogne and Folkestone £9 3 6
From Brindisi to London *viâ* Calais and
Dover; or *viâ* Boulogne and Folkestone 11 19 3
Passengers can break the journey at Dover, Calais, Folkestone
Boulogne, Amiens, and Paris.

From Venice to London *viâ* Newhaven,
Dieppe, and Rouen £8 4 8
From Brindisi to London *viâ* Newhaven,
Dieppe, and Rouen 10 16 10

Trains, several times daily, leave Paris for Italy (Macon, Turin,
Milan, Venice, Brindisi, and Boulogne,) and the journey can be
broken at any three principal stations between Paris and Venice.

TELEGRAMS EN ROUTE.

Passengers can telegraph their safe arrival at these rates to
London, or *vice versa*, viz:—

From Australia	.. ..	£1 10 0
„ the Straits, China, or Japan	.. ..	1 0 0
„ Calcutta, Madras	}	0 15 0
„ Bombay or Ceylon		

BAGGAGE.—A first-class passenger (all the rates quoted are for
such) is allowed 336lbs., and portmanteaus should not exceed 3ft. x
1ft. 3in. x 1ft. 3in.

PARCELS.—The charge from India to London is 1s. per lb. or
fraction of a lb. From China and Australia, 1s. 3d. per lb.

OCEAN FARES:—

From Alexandria to Venice, Ancona, or Brindisi	£12
„ Suez to Southampton	.. 14 days 20
„ Port Said to Southampton	.. 13 „ 20
„ Malta to Southampton	.. 9 „ 15
„ Gibraltar to Southampton	.. 5 „ 9

INDIAN STEAMERS' FARES:—

	P. & O. S. N. Co's Rate from Southampton.	Indian Companies' Rates.
BOMBAY	£68	—
Kurrachee	—	£10
Muscat	—	16
Guadur	—	13
B. Abbas	—	20
Linga	—	22
Bushire	—	26
Bussorah	—	29

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	P. & O. S. N. Co's Rate from Southampton.	Indian Companies' Rates.
BOMBAY	£68	—
Carwar	—	£7
Mangalore	—	8
Cannanore	—	9
Calicut and Beypore	—	10
Cochin and Narrakal	—	12
Tuticorin	—	16
Colombo	—	12
MADRAS	£68	—
Negapatam	—	4
Masulipatam	—	6
Coconada	—	7
Bimlipatan	—	8
Vizagapatam	—	8
CALCUTTA	£68	—
Chittagong	—	6
Akyab	—	7 10s.
Rangoon	—	10
Moulmein	—	12
SINGAPORE	£83	—
Malacca	—	3
Samarang	—	14
Sourabaya	—	18
Padang	—	20
Macassar	—	23
Batavia	—	10
Do. second-class	£47	6

The steamers of the British India Steam Navigation Company leave Bombay for Kurrachee every Wednesday and Saturday; Bombay for the Persian Gulf ports every alternate Monday; Bombay to the Malabar Coast ports every alternate Tuesday; Madras to the Coromandel Coast ports every alternate week; Calcutta to Akyab, Rangoon and Moulmein every Friday; and Calcutta to Chittagong every alternate Friday. Aden for Zanzibar every fourth Friday.

The steamers of the Netherlands India Steam Navigation Company leave Singapore for Batavia every week; Batavia for Samarang and Sourabaya every week; Batavia for Penang every alternate week; Sourabaya for Macassar every alternate week.

STEAMERS' FARES :—

		First-class.
From Ceylon to Penang ..	6 days	180 rupees.
Thence to Singapore ..	2 "	25 dols.
" Hong Kong ..	9 "	100 dols.
" Shanghai ..	5 "	75 dols.
Hong Kong to Yokohama ..	7 "	100 dols.

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		First-class.
From Ceylon to Madras ..	4 days	80 rupees.
Thence to Calcutta ..	4 "	100 rupees.
Ceylon to Bombay ..	6 "	120 rupees.
Bombay to Aden ..	7 "	£20
Ceylon to Aden..	..	£20

TORRES STRAITS MAIL ROUTE.—From Brisbane (Queensland,) which is arrived at in about two days from Sydney, the steamer proceeds through the Inner Passage between the Great Barrier Reef, 1200 miles in length, and the mainland of Australia ; through Torres Straits, and round Cape York ; then makes for Timor-Laut ; then north of Timor-Delli, skirting south of the Volcanic Islands, she proceeds up the Straits of Lombok to the Carrimatta Passage ; and on to Singapore, which is reached in about eighteen days from Brisbane. From Sydney to Brisbane the fare is £5 ; from Brisbane to Singapore, £30.

From the *Brisbane Courier*, the incidents of the passage by the *Somerset* from Brisbane, we thus condense :—" The steamer's passengers were waited upon by Chinese waiters in full costume, with gentle obsequiousness, contrasting oddly with the energetic smartness of English stewards. Very suggestive, too, of Eastern life was the Punka, which agitated the air in the saloon." She sailed from Brisbane on 3rd February, and made for Townsville, landed passengers, and on 6th February resumed her voyage. On the 7th sighted Cape Grafton, and in the evening passed close to Cook Town, when the weather became very sultry. Having anchored off Flinder's Group and Night Island, on the 9th the vessel reached Somerset, where a small fleet of crafts frequenting the Pearl and Beche-de-Mer fisheries were at anchor. In the afternoon she got through Albany Pass, after "the strength of the tide had compelled the steamer to go back some three or four miles to get room to turn." Leaving Cape York and Booby Island, the steamer made for Timor-Laut, about 650 miles distant from Cape York ; it is near the Arru Isles, which Mr. Earl says are not more than 250 miles from the north coast of Australia, and which were sighted on the 14th. "The view of the groves of graceful cocoa-nut trees, and (wonderful to relate) real 'natives' houses, thatched with palm leaves, was the theme of general admiration with the ladies. It was certainly a marked contrast to the eternal gum tree of Australia." Captain Stanley visited the village of Oleliet on the south-western end of the island, and was struck with the contrast between it and the Australian shores. A grove of cocoa-nut trees extended over a mile, under the shade of which were sheds neatly constructed of bamboos, and thatched with palm leaves for reception of the canoes. A hill, rising 400 feet, covered with brilliant and luxuriant vegetation, concealed the village built on the summit. The natives are intelligent,

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athletic, and of a light tawny colour. Their dress was a waist cloth reaching to the knees, in some instances ornamented with beads. Their arms and legs were loaded with rings of ivory, ebony, and coloured glass. The lobes of their ears were perforated, and depending therefrom were enormous rings, sometimes as many as three from each ear. A few natives had gold earrings of considerable size, but of rude workmanship. Their hair was smeared with a preparation of lime, and was fantastically arranged round the head, and fastened with a tortoise-shell comb. A chief conducted the officers to the village up steep steps and ladders, almost perpendicular.

The course then lay on the southern side of the line of islands—all volcanic—between Timor-Laut and Java. On the 15th she was off the Serwatty Group, passed Wetter and Kambing, Timor—distant 400 miles from Port Darwin—being to the south; and north-west of which is Ombay Island, which was closely passed, and afforded some amusement. Native villages were seen perched up at an extraordinary height above the sea, and there seemed plenty of forest; a Dutch flag was seen fastened to a cocoa-nut tree. They coasted along Partan, Lomborta, Ademara and Solor, and on the 17th sighted the large and beautiful Island of Flores. The scenery is grand; the mountain ranges rise one above the other from the sea backward; the tints, light green and yellow, relieved by the darker colours of the ravines and cocoa-nut groves; and agriculture is carried on up the sides and over the summits of the hills. A group of natives and a small fleet of canoes were seen. Appi Head was passed closely; upon it was an active volcano, from which issued dense clouds of sulphurous smoke. "The dislodged and vitrified strata were of almost every variety of colour, chiefly yellow, black, and different shades of red and purple. Flores is the largest of the chain of islands from Timor to Java, and would, doubtless, richly repay a lengthened visit."

Sumbawa was sighted on the 18th, and here and there were pretty little bits of landscape. Lombok was passed on the 19th. Lombok Peak, 11,280 feet high, is very conspicuous, and has at the summit a large crater of an extinct volcano.

The steamer then shaped her course northwards, through the Straits of Lombok, which are fifteen miles wide, and separate Lombok from Bali on the west. Elsewhere will be found Mr. Wallace's minute account of the wonderful transformation of the actual cleavage of land that at some former time must have taken place at this particular strait; which is the highway, as it were, into the Archipelago from the Indian Ocean. "Bali appeared to be highly cultivated. It presented a grand and imposing appearance, some of the mountains rising by magnificently sweeping slopes from the sea to a great height some distance inland. Bali Peak is 10,080 feet high."

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Madura, separated from Java by a narrow strait, was next passed, and then the steamer made for the Carrimattas—to save the mail, in lieu of calling at Batavia—and arrived at Singapore on the 24th February, after a passage of twenty-one days from Brisbane, described as delightful; the sea being beautifully calm, with exception of the Arifura Sea—usually pacific enough—the whole trip.

CAPE OF GOOD HOPE ROUTE.—By the *Whampoa*, *Somersetshire*, and other splendid steamers, which start with 2200 tons coal, the Cape may be reached in about twenty-one days, and London in fifty days, the outward passage usually being made within forty-five days; which it is prognosticated will be reduced to forty-two days by the *Whampoa*. Saloon passengers to London pay £73 10s.; second-class, £30; and third-class, £20. To the Cape, saloon, £50; second-class, £25; and third-class, £18. The Cape, from a long residence on the frontiers, we know to enjoy a charming climate, and we regard it as preferable to that even of Australia, the seasons being identical. Touching thereat is a delightful break in the voyage, as the scenery around the environs of Cape Town is lovely; and a visit can readily in a few hours be made to Wynberg, Rondebosch, and Constantia. The last named is the habitat of the famed Constantia grape, and wine, which is a liqueur, and is only made on one estate of a few acres. We foretell that this will yet become a favourite route from Australia to Europe.

CAPE HORN ROUTE.—Sailing vessels proceed direct round the Horn, and the average passage from Melbourne to London may be reckoned to occupy 100 days' time. This is a most disagreeable passage; during about three weeks in the low latitudes the cold experienced is intense; stupendous masses of ice towering to an incredible height—one is three miles in length—remain stationary, and are continually passed; some break up, and a friend describes such an event (when the huge mass of ice was riven asunder whilst the sun was shining and glistening upon it,) as inexpressibly grand.

SAN FRANCISCO ROUTE.—Steamers leave Sydney for San Francisco every twenty-eight days; they reach Auckland in five days; Honolulu in twenty-one days; and San Francisco in thirty days. A first-class passage to Auckland is £10; Honolulu, £30; San Francisco, £40.

From Melbourne to San Francisco is 7800 miles, whence trains start every morning in the week at 7 a.m., and arrive at New York at 6.40 a.m. on that same day week; and at the Atlantic sea-port towns, viz.: Philadelphia, they arrive at 3 a.m.; Baltimore at 4 p.m., and Boston at 11 a.m., respectively, on the same day week.

The passage money from San Francisco to New York is—

First-class	..	..	138 dols.	equal	£28 15 0
Second-class	..	..	100 dols.	equal	20 16 8

and across the Atlantic to Liverpool is from £12 to £16, according to accommodation.

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The carriages are fitted up so as by day to be elegant sitting rooms, by night to be bedrooms. For sleeping accommodation, viz. : double berths, sleeping one or two persons, 21 dols. 50 cents., equal to £4 9s. 7d. extra is charged for the whole journey; and you can roam about from carriage to carriage; access to luggage can at all times be had, and 250lb. is allowed. Refreshments—the passage money is for the transit only—books, journals, &c., can be purchased of the guards; and with every comfort and accommodation this must be a most enjoyable trip, as a person can leave the train and rejoin at such stations as he may think fit. At intervals are break-fast, dinner, and supper stations.

CHICAGO ROUTE.—Chicago will be reached in 2410 miles from San Francisco; thence to New York is 900 miles, and thence to Liverpool 3040; in all, from Melbourne, 14,150 miles. Chicago is a city of 400,000 inhabitants, and has some of the finest hotels in America. It is situated at the head of Lake Michigan, which is 260 miles from north to south, by a mean breadth of fifty miles; its waters are said to be unfathomable, and abound with excellent fish; and from this, the greatest railroad centre in the world,—as the Americans say—diverge five great trunk lines to the Atlantic sea ports.

The Chicago and North-western line has been described to us as solid and very easy, and the pace travelled at between twenty and thirty miles per hour. The scenery *en route* is superbly grand, ever changing from valleys to snow-capped mountains. On the evening of the second day an elevation of 4927 feet has been attained, and for some days an altitude up to 8242 feet is maintained.

Taking this favourite company's line from San Francisco to Chicago it passes through Oakland, Stockton, Sacramento, and Auburn in California; then across the Sierra Nevada Mountains past Lake Tahoe, down the Humboldt River, and into Utah. From Ogden, 881 miles from San Francisco, tourists can avail themselves of the Utah Central Railroad for Salt Lake City, where they will be warmly welcomed by the Mormons as well as Gentiles. This "Mecca of Mormonism is situated at the base of the great Wahsatch Mountains, about forty miles from the Ogden station—4340 feet above the sea—in Salt Lake Valley. The lake is about 150 miles long and fifty wide. It is the great American 'Dead Sea,' not a living thing is found in its waters, which hold in solution one-third pure salt. The mountain peaks glisten in the sun with perpetual snow; some of the richest gold and silver mines have recently been discovered in the mountain caverns, and are now crowded with bustling miners."

The great Mormon tabernacle is circular, with a lofty dome roof, will seat within it 13,000 persons, and is one of the marvels of the age. This diversion on the journey is truly pleasurable.

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Resuming the journey at Ogden, the Wahsatch range of mountains is crossed, and eventually Omaha is reached; and here, 490 miles from Chicago, is the eastern terminus of the Union Pacific, and the western terminus of the Chicago and North-western Railways. Between Omaha and Council Bluffs, a fine bridge over the Missouri River is crossed. It is navigable for 4396 miles, its comparative course being 2500 miles. At 1300 miles from the sea, this king of rivers receives the waters of the Mississippi, which it triumphantly carries away, with—in its course—upwards of fifty large rivers and 150 smaller streams; and, at the confluence of the Mississippi with the Missouri, each river is one and a half miles wide; the former has an absolute course of 1418 miles. The journey eastward is now along the beautiful Boyer valley, passing through picturesque towns, villages, and thriving cities in Iowa.

Crossing the Mississippi at Clinton, an old settled territory, the state of Illinois is entered, and Chicago is arrived at twenty-three hours after leaving Omaha.

Arrived at Chicago, 900 miles from New York, any of the Eastern Trunk Line's trains can be taken, as they all make direct connection with this, the Pioneer Line, and it was the first to connect the Pacific coast with Chicago, uniting with the great Pacific roads; and thus forming the overland route from the Pacific to the Atlantic.

One popular route is from Chicago to Milwaukee, running along the lake shore, delighting the tourist with lake views, and affording access to the many beautiful cities, towns, and villages along its shores.

A line from Chicago, 625 miles in length, runs through Illinois, Wisconsin, and Minnesota into Dakota.

Chicago is also connected by rail with Lake Superior, the largest body of fresh water in the world. It is 400 miles in length; at its greatest breadth it is 100 miles; and in circumference is, at least, 1200 miles. It abounds in prime fish, the Indians regaling themselves upon sturgeon and long trout, many of which are from fifty to seventy pounds weight; its waters are pure and pellucid. Bell observes: "In the lake are five large islands, one being 100 miles long by forty in breadth; and more than forty rivers discharge themselves into it. The storms which occur on this lake are felt as severely as on the Atlantic, and the navigation is more dangerous. It lies between latitude north 46° and 50°, and longitude west 84° and 93°."

A line from Clinton, Iowa, to Anamosa, passes through the garden of Iowa.

NORTHERN TERRITORY.

CHAPTER I.

GULF OF CARPENTARIA—ROPER RIVER—ARIFURA SEA— RAFFLES BAY—PORT ESSINGTON—TREPANG FISHERIES—FREE PORT DESIRABLE.

As the NORTHERN TERRITORY is now a portion of South Australia, for the purpose of keeping together all the reading matter appertaining to that colony, we shall start as though on the voyage, which we actually did make, we had arrived at the boundary line which divides Queensland and the Northern Territory, viz., the 138th meridian of longitude, east, in the Gulf of Carpentaria; thence westwards on to Port Darwin, and round West Australia to Adelaide—afterwards, describing in their due order the other colonies passed on the voyage from Adelaide eastwards *via* Torres Straits, we shall proceed to our point of departure, the aforesaid 138° longitude—thus circumnavigating Australia.

The NORTHERN TERRITORY, or, as it is sometimes termed, the “Northern Territory of South Australia,” comprises all the country north of the 26° latitude, south, and lying between the 129th and 138th meridians of longitude, east; and contains over 340,000,000 acres.

The western boundary line of Queensland is 1° 53' west of the Albert River, in the gulf, and starting therefrom we arrive off the Roper River, about 500 miles east of Port Darwin, respecting which Captain Lowrie—who, in command of the government steamer *Young Australian*, whilst carrying poles, &c., for construction of the telegraph line, resided two years on the river—has courteously written to us as follows:—

“THE ROPER falls into the Gulf of Carpentaria in latitude, south, 14° 45', and longitude, east, 135° 35', opposite Maria Island, in the south-west corner of the gulf. The bar, which is seven miles from the heads, has from thirteen to fifteen feet on it at ordinary tides during the dry season, from April to December, and during the rainy season as much as eighteen or twenty feet. It is quite smooth, being sheltered by Maria Island as a breakwater.

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The river at the mouth is about one and a-half miles wide, shortly after narrowing to 600 yards, and continuing at from 350 to 800 yards wide for thirty miles, with not less than eighteen feet of water. At about thirty-five miles there is a bar of eleven feet, and six miles further a bar of ten feet, both of which could be cleared away without much trouble. Thence to the late telegraph depôt there is abundance of water—if the rocks are avoided—all the way up the river, varying in width from 400 to 800 yards, and at the depôt 120 yards. Above the depôt, which is eighty-five nautical miles from the sea, the river could be safely navigated to LEICHARDT'S BAR, six miles from the depôt, by vessels of ten feet draught. This bar, and half a mile above it, are rocky flats, nearly dry in fine seasons. Fifty miles more could be ascended by boats or small vessels. I have seen and tasted fresh water at MARIA ISLAND, twenty-two miles outside the mouth, in the rainy season; and in the dry season the river is fresh within forty miles of the sea. The banks at the mouth are low-flooded plains, belted with mangrove spurs coming down to the river at intervals. About thirty miles up, the stony rises come close to the water with timber, mostly gum and acacia. From this, upwards, the banks are covered with paper bark, and many creepers and beautiful shrubs. In seasons of heavy floods the banks are submerged. During the season of 1873 the river rose at the depôt to forty feet above tidal flood mark. The strata of the hills on the Roper is red sandstone, the dip to the south, and nearly all the hills terminate in abrupt bluffs towards the north. The soil on the plains is a red sandy loam, and will grow anything. There are many creeks falling into the Roper, some of which may be called rivers. There are also several lagoons of salt and fresh water near the sea.

"THE NATIVES were most friendly, and made themselves useful in wood cutting and otherwise, in exchange for a little flour or an old shirt. They are, no doubt, cannibals in a degree, sometimes eating a baby, but neither women nor young men partake of the feast. An old woman is also occasionally eaten when she is left with none to care for her, but it is from no want of food, as that is abundant at all seasons. Their food is kangaroos, iguanas, snakes, fish, roots, and fruits. For nine months of the year the water lily is the principal article, or rather three articles. The roots they eat as yams, the stalk as a salad, the seeds are pounded and made into a cake, which is, I assure you, very good indeed—this is the province of the women. They are a fine, well-grown race, many upwards of six feet; the women are fine in person when young—their dress, sometimes, is a string of yellow reed beads, and *nothing more*.

"THE CLIMATE OF THE ROPER, from April to the end of November, is lovely—a constant south-east wind blowing from the gulf, and for months a cloudless sky. During December and January, before

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the rains set in thoroughly, it is hot and sultry; after the rain fairly commences it becomes cool and pleasant again. The mosquitoes are bad amongst the mangroves, as are the sandflies on the flooded plains; but after the country dries up, they are no trouble. I may add that Maria Island would make an admirable sanatorium or bathing station. It is about seven miles long by three miles broad; has abundance of fresh water, grass, and timber; and its shores abound with excellent fish, not forgetting oysters and cockles. There is excellent anchorage to the west of the island."

BLUE MUD BAY is about sixty miles north-east of the Roper River mouth. Hereabouts are several small and unimportant islands.

GROOTE EYLANDE is an island south-east of Blue Mud Bay, between the 136th and 137th meridians of longitude, east.

CAPE ARNHEIM is about latitude, south, $12^{\circ} 15'$, and longitude, east, about $136^{\circ} 55'$.

WESSEL ISLANDS are north-west of Cape Arnheim—as well as several smaller islands.

ARIFURA SEA.—We now traverse all along this wide expanse of ocean, which, at times, is very rough.

LIVERPOOL RIVER is between the 134th and 135th meridians of longitude, east, and is a very fine river, navigable for some distance.

EAST ALLIGATOR RIVER flows into Van Diemen's Gulf, about longitude, east, $132^{\circ} 45'$, and is navigable for about forty miles.

SOUTH ALLIGATOR RIVER flows into Van Diemen's Gulf, west of East Alligator River, and is navigable for large vessels about twenty or thirty miles, and by boats much higher.

RAFFLES BAY, in latitude, south, $11^{\circ} 25'$, and in longitude, east, 132° , "is situated on the eastern side of Coburg Peninsula, an extensive projection from the mainland of Australia. It is of a circular form, the diameter being about three miles, but it is very shallow." In 1827 the British Government founded a settlement here, by removing the party of troops and convicts which, in 1824, had been sent to Melville Island. The climate was more salubrious, and the land was drier, and more free from swamps. "These also, where they do exist, are shallow, so that in the dry season the pigs belonging to the settlement fattened rapidly on the roots which they found in them." The object of forming such a settlement was to open up a trade with the islands of the Eastern Archipelago, and it seems unfortunate that incorrect representations induced the Government to abandon the locality, so eminently suitable from position to command a large portion of the trade with the islands. In 1829 the whole party was removed to Cape Leeuwin, and Captain Stirling became the governor of the Swan River Settlement.

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Mr. Earl in his work on the Eastern Seas, published thirty-seven years ago, remarks:—"THE BUGIS TREPANG FISHERS, from Macassar, discovered the settlers at Raffles Bay, but were rather suspicious of them, as they could not make out their object in settling there! The following season, however, the Bugis gained confidence, and several of the prahus remained at the settlement to fish for trepang, instead of proceeding further along the coast. The Bugis were induced, by the representations of the commandant, to bring with them, the next season, articles produced in the archipelago, to barter with the British, and many also brought their families with the intention of settling; but on their arrival at Raffles Bay they found, to their great loss and disappointment, that the place had been abandoned during their absence. The orders from the Colonial Office had been issued under the supposition that no intercourse had been opened with the natives of the archipelago; that the climate was unhealthy, and that the natives were hostile. Not only had an intercourse been opened with the Bugis, but the climate had been proved to be remarkably healthy, and the natives had long been on the most friendly terms with the settlers."

Dr. Wilson, in his voyage round the world, touching the climate of Raffles Bay, says:—"As far as my own observation and experience go, I perfectly coincide in opinion as to the healthiness of the climate. I was accustomed to use a great deal of exercise, even in the middle of the day, which would have been extremely hazardous in India."

PORT ESSINGTON is in latitude, south, between $11^{\circ} 6'$ and $11^{\circ} 25'$, and longitude, east, between $132^{\circ} 5'$ and $132^{\circ} 18'$. Bell's excellent geography of 1852 notes:—"In May the thermometer ranges from 75° to 95° , the midday heat being 80° ; the average heat of the whole year being 83° , or about that of the equator." "It is a noble port, extending south south-east into Coburg Peninsula, which projects fifty miles from the mainland of Australia, and is connected with it by a narrow neck of land five miles long, and about two and a half wide. The peninsula then widens to about fifteen miles. Its elevation is from thirty to 300 feet above the level of the sea; its soil is generally good, and climate healthy. The entrance is open and unobstructed, and may be entered night or day. Its average width is about five miles; its depth of water, twelve, nine, and five fathoms. At its head it divides into three spacious harbours, each extending inwards about three miles, with a breadth of about two miles, and perfectly land-locked. The bottom is stiff mud and sand. The shores present a pleasing variety of little bays and sandy beaches, alternating with bold cliffs, and steep clay banks. Inland, the continuous forest of trees is occasionally relieved by small round hills, rising perhaps 100 feet above the usual level of the

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country; which is, otherwise, pleasingly undulating, being in general about 150 feet above the level of the sea, but occasionally dipping below sixty feet. The vegetation round the port is luxuriant. Fish are caught in quantities in the port. Turtle are common, and the sperm-whale is in the adjoining seas. Throughout the Coburg Peninsula, near the shore, are found patches of land, from two to fifty acres and upwards, on which the vegetation is perfectly in character with that of the islands of the archipelago. The soil is here of the richest description, and I have no doubt that it would produce any articles that are grown at the Moluccas. On the south side of the peninsula, Lieutenant Stewart saw numbers of cedar trees, many of which were ten feet in circumference, and thirty feet in length from the root to the lower branches. The cypress was also met with, together with a tree from which the natives form their canoes, the trunks being twelve feet in circumference, and from fifty to sixty feet long. The various grasses closely resemble those of New South Wales; they do not cover the surface of the ground with their roots, but grow in tufts or tussocks. During the rainy season the grass shoots up with great rapidity; the seed-stems of some of the larger kinds attaining a height of from six to eight feet."

A FREE PORT DESIRABLE ON NORTH-WEST COAST.—Mr. Earl points out, from his own personal knowledge of the archipelago and the north coast of Australia, that a free port hereabouts, with land easily attainable, would induce not only the Bugis, from CELEBES and other islands, to come and settle there, but that thereby British planters, with capital, from India—when aware of the advantages held out to them—would also be tempted to become colonists. He observes—"An European settlement on the north coast of Australia would become the commercial emporium of this part of the archipelago, as Singapore became that of the western part—since the government would be more substantial than in any of the native states;" and that the trade would be diverted from the ARRUG GROUP, situated about 250 miles from the north-coast of Australia, which had then become the emporium of the south-eastern corner of the archipelago—"the rich produce of the east coast of NEW GUINEA, of CERAM, GORAM, and CERAM LAUT, and also of the islands to the north and north-east of Timor, being collected there," for which the manufactures of Europe and continental India were exchanged. "The Dutch settlements of Amboyna, Binda, and Timor, are equally well situated for commercial emporiums as the ARRUG, but the natives hate the Dutch, and avoid as much as possible intercourse with them." The Dutch did not interfere with them, but claim the Arru Isles, as they do New Guinea, although in possession of neither.

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BECHE-DE-MER *alias* SEA SLUG *alias* TREPANG FISHERIES.—This slug, which adheres to the rocks under water, is a very dark brown monstrosity, apparently eyeless and limbless, about six or twelve inches in length. When cooked they are gelatinous, and are highly prized by the Chinese nobility. In Singapore we have seen them split open, gutted, and cured by exposure to the sun; then bagged, kept dry, and exported to China, where there is a never-failing demand at over £100 per ton. They are found amongst the islands of the Eastern Archipelago and Torres Straits.

In the south-east monsoon, the Bugis traders from Macassar visit the numerous islands about Torres Straits, as well as Port Essington, which has long been a favourite place for them to fish. They sail in small fleets, armed, and can defend themselves if attacked. They employ and treat kindly the blacks from the mainland of Australia.

TREPANG belongs to the *echinodermata*, a class of animals, *radiata*; "a vast group, without limbs or joints, which radiate from a common centre. They have a well-organised skin, also a digestive and vascular system. The nutritive apparatus is very simple, presenting in most of the family a single orifice, destitute of teeth, in the centre of the lower surface of the body, performing the functions both of the mouth and anus; but in some the *echinodermata* present a digestive cavity, with an orifice for the evacuation of the contents, distinct from that by which the food is taken in. The muscular motion is generally present in these animals; but the organs of motion in them are various, the principal ones being the membranous tubes, which can be protruded at will through the ambulacral apertures, and which have been termed feet."

"THE TREPANG resembles a prickly cucumber in size and appearance, except that the colour is whitish brown, but one variety is perfectly black. It is found in all sheltered harbours, where it grows about the bottom, and feeds upon weeds and molusca. It is taken at low water upon the shoals or mud banks, over which the fishermen wade knee deep in water, dragging their boats after them, and when the feet come in contact with a slug it is picked up and thrown into the boat. They occasionally search in deeper water, when the fishermen avail themselves of the services of the natives, who are expert divers; or, if they cannot obtain such assistance, they prick for them with barbed iron darts with long bamboo handles." To cure them the slug is simmered for half-an-hour over a fire, and opened by a longitudinal cut along the back, and reboiled in salt water. After being smoked over a fire, it is packed in bags or baskets. "From thirty to forty prahus, varying from twenty to seventy tons, are employed in the fishery, and the crews amount to about 1200 men." They receive no wages, but are entitled to a certain portion of the profits.

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The stores required for the voyage are advanced by the Chinese, or Dutch merchants of Macassar (Celebes,) who thus acquire a right to the proceeds at a certain price. Taking the average amount of the trepang obtained by each prahu at twenty tons, this will give 600 tons as the quantity annually exported from the coast. This was the state of the fisheries about Port Essington at the time Mr. Earl wrote, and they are yet fished as of yore.

COBURG PENINSULA we rounded on the 13th August; through Dundas Straits steered south-west, and sighted Cape Hotham; and here commences Adam Bay, into which debouches the noble River Adelaide.

PORT DALY is the entrance, east of which is Point Ayers, in latitude, south, $12^{\circ} 12' 54''$, and longitude, east, $131^{\circ} 14' 25''$.

CHAPTER II.

MELVILLE ISLAND—BUFFALOES—NEAR FUTURE OF AUSTRALIA— TRAVELLING STOCK FROM QUEENSLAND.

MELVILLE ISLAND, in latitude, south, $11^{\circ} 30'$, and longitude, east, $130^{\circ} 50'$, is an *appanage* of the Northern Territory, and is about forty-five miles due north of Port Darwin. It is ninety-five miles long from east to west, and thirty-seven miles wide. To the west of it is Bathurst Island, separated from it by Bathurst Straits, about half-a-mile wide, but not navigable. Both these islands are fine pastoral land, and the herds of buffaloes of late years have much improved the pasturage of Melville Island, which is inhabited by a warlike and treacherous race, who assume a threatening attitude towards strangers. The British Government, fearing that the French were about to colonise North Australia, in 1824, sent an expedition under Sir Gordon Bremer, who founded a military settlement, Dundas, on Melville Island, prior to the settlement at Raffles Bay; and who, subsequently, in the name of Great Britain, took possession of all the northern coast of Australia. Buffaloes were then introduced from Timor, and are now numerous. Occasionally sporting parties are made up in Palmerston, who cross over and remain a few days. Lately such a party of eight, from Palmerston, landed there from the *Flying Cloud*, government cutter, remained two days, and returned, after killing four buffaloes, weighing about three cwt. each, also many quail and wild ducks. The natives espied them, came down and poised their spears, but a shot over their heads soon dispersed them. These humpless buffaloes are small and hairy, with horns, and are white or mouse-coloured. The hide, in parts, is half an inch in thickness, and a bullet

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will not kill them unless it perforates the head or under the shoulder. The meat has been salted and brought to Palmerston, but it is coarse, and the flavour is not much liked. Mr. Surveyor Gilbert McMinn visited the island ten years ago, and thinks that a superior breed of Herefords may be there, as about thirty miles east of the usual landing place he saw red cattle, and it is an ascertained fact that they will not intermix with buffaloes. Perhaps an enterprising party would be well repaid by visiting the island for the purpose of killing the latter, or cattle, for the hides. They are quietly grazing, and two men on horses could round up any number. "The island contains about 1800 square miles, and is separated from Coburg Peninsula by Dundas Strait, which is fifteen miles wide. The natives live, in the dry season, on kangaroos and other marsupials. In the wet season, on fish, turtle, crabs, and other shell-fish; their vegetables are the cabbage palm and sago palm." They lead a wandering life, and resemble the Port Darwin blacks.

BUFFALOES.—Throughout the Eastern Archipelago, this animal is the ordinary beast of burthen; and we fancy that the Adelaide mining companies, which from Newcastle, in 1873, sent up 187 bullocks in the *Magnus* to Port Darwin, were ill-advised in not importing the patient, docile, and hardy buffalo, inured to a similar climate. The bullocks presented a pitiable sight a few days after they landed, toiling along even with an empty waggon, their tongues hanging out, and some daily dying. In Java and Singapore, the buffalo may be seen drawing a tumbril heavily laden, on wheels cut out of solid blocks of wood, and slowly waddling along. When off duty, he delights in wallowing in swamps, in which he is as much at home as on land; and in these he buries himself so deeply that only his head and nose are visible, thus protecting his hide, thick though it be, from the insects. And no creatures can travel with so much ease as can buffaloes over flooded rice fields and bogs; as their legs are short and well adapted to propel their huge bodies, the bulk of which prevents them from sinking very deep. The flesh is coarse, and Europeans do not care to eat it; but, in Singapore, buffalo milk was the only milk we tasted and is very good, as well as the white butter made therefrom. "The body of the animal is oftentimes fifteen feet in girth, the horns are spreading and of an enormous size, extending backwards from the head, so as to lie nearly parallel with the neck and back when the animal is walking or swimming. The eye is small and not unlike that of the elephant, but without its intelligence, ears large and drooping, and the tail shorter than that of the European ox. The skin is of great thickness and scantily provided with hair."

The *Northern Territory Times*, published at Port Darwin, mentions:—"This animal was first introduced from Timor, for the use of the establishment at Raffles Bay, and when it was broken up, all the

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females and a few of the males were left behind to stock the country. They now amount to many thousands, and have spread along the north coast, nearly, if not quite, to the Gulf of Carpentaria, and to the south as far as the bottom of Van Diemen's Gulf. They are generally found congregated in herds of twenty to fifty of all sizes, under the guidance of a single full-grown male, oftentimes of enormous size. But stragglers are often met with far beyond the limits assigned above. The young males, being turned out of the herd by the patriarch as soon as they approach maturity, become wanderers for life unless they can re-establish themselves, or gain a footing in other herds, which can only be done by killing or driving off the leading bull. Of course many are doomed to a solitary life, and wander far from the haunts of their fellows. Lieutenant (now Sir George) Grey found the tracks of a large buffalo near Hanover Bay, on the north-west coast, upwards of 600 miles distance from Raffles Bay, and although this occurred only ten years after the settlement was abandoned, there can be no reasonable doubt of the straggler having come from that neighbourhood. The buffalo, when in a wild or unbroken state, is very unruly and headstrong, but is easily trained, and when once broken in, the largest beast allows himself to be led about by a child. The first ship-load of buffaloes brought to Port Essington from the neighbouring islands consisted of very unruly brutes, but a few days' handling on shipboard were sufficient to tame them, and several were broken in by the marines, and employed dragging water carts, in little more than a week after their arrival. The agricultural Malays of the Archipelago would, indeed, be unable to carry on their rice cultivation without them, for, as the preparation of the land takes place after it has been flooded to the depth of a foot or more, no other quadruped could assist them materially. The Malays use a sort of plough, a crooked piece of timber with an iron point, which is so slight, that a boy can carry it over his shoulder with ease; but the soil is really prepared by the trampling of the buffalo, the plough being of little use except to mark the ground gone over. Indeed, some of the more ancient tribes—those of Timor and Rotti for example—dispense with the plough altogether, and prepare their rice land by driving herds of buffaloes repeatedly over it. In tropical Australia the buffalo will be found useful by timber-cutters employed in the neighbourhood of swampy land, and as there is not the slightest chance of their mixing with the settlers' herds, the antagonism between the two being insurmountable, their presence in Australia must be considered rather as an advantage than otherwise."

Leichardt on his expedition of 1844-5, from Brisbane to Port Essington, came most opportunely across a buffalo on the east side of Van Diemen's Gulf, and at page 524, relates with delight:—"At the discharge of the gun at some ibises, a buffalo started out of a thicket, but did not seem inclined to go far. Brown returned,

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loaded his gun with ball, went after the buffalo, and wounded him in the shoulder. When Charlie came back to the camp, he, Brown, and Mr. Roper pursued the buffalo on horseback, and after a long run and some charges, succeeded in killing it. It was a young bull, about three years old, and in most excellent condition. This was a great, a most fortunate event for us, for our meat bags were almost empty, and as we did not wish to kill Redmond (a bullock) our good companion, we had the prospect of some days' starvation before us. We could now share freely with our black friends, and they had not the slightest objection to eat the fresh meat after baking in their usual manner. They called the buffalo 'Anabaru,' and stated that the country before us was full of them. . . . I was struck with the remarkable thickness of their skin (almost an inch,) and with the solidity of their bones, which contained little marrow, but that little was extremely savoury."

THE NEAR FUTURE OF NORTHERN AUSTRALIA.—The *Sydney Empire* remarks:—"The durable timber of the old jetty at Port Essington, the varied vegetation indigenous and foreign around that former settlement, the herds of wild cattle, the turtle and trepang on the coast, and the success which is known to attend regular fishing operations there, combine to prove that within about three days' sail from Port Darwin, and thence onward to the east, as far as the Gulf of Carpentaria, where Queensland enterprise meets that which radiates from the Northern Territory, there are the natural materials of future wealth—a productive soil and convenient harborage. To those who are attracted to Port Darwin by the goldfields in that part of the country and fail to realise their expectations there, other modes of enriching themselves will be available. Whether fostered by the Government of the two colonies concerned or not, there can now be no doubt that the natural development of colonial enterprise will in a few years result in a chain of settlements along the whole of the Northern coast, and vessels will be employed from Somerset round to Perth, in transferring to the chief ports the produce of many settlements. Where Malays in their proas, each manned by thirty or forty, are accustomed to pay regular visits for fishing purposes; to employ aborigines, and to pay them for their services with rice, tobacco, and canoes, it must surely be practicable for Englishmen to carry further this legitimate traffic; to deal on fair terms with both these races of men, and to turn to much more profitable account the materials they have at their command. While Malays find it their interest to enter into friendly relations with the aborigines, and secure their co-operation, our countrymen cannot be supposed to be incompetent to make as good use of the same opportunities. The labours of many generations of English and Dutch have not been without fruit in the promotion of the arts of civilisation among the people of the Archipelago; and the establishment of the Torres Straits

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steam postal line between Brisbane and Singapore will concur with other influences in the spread of intelligence and the development of the industries of civilised life."

THE TRAVELLING OF STOCK FROM QUEENSLAND TO PORT DARWIN in the dry season is said to present no difficulty whatever. It is usual to make for the Albert, and to cross it somewhere above Burke Town. But care should be taken to avoid the dangers consequent upon being overtaken by floods or droughts, so that due attention must be paid to the season of setting out to travel. From Normanton, a township twenty miles inland, but fifty miles in a tortuous course up the River Norman, which falls into the southern portion of the Gulf—whilst the writer was at Port Darwin, Mr. Uhr arrived safely with fifty head of cattle in November, having started in May. From Normanton to Burke Town may be about 300 miles, and from Burke Town to Port Darwin may be about 700 to 800. The *Northern Territory Times and Gazette* some months ago announced the melancholy death by starvation of Mr. Nation, solely owing to miscalculation as to duration of the wet season, and after he had killed all his horses for food. Most pathetic is the appeal which he makes by telegram from Daly Waters station, 1605 miles from Adelaide, to Mr. Scott, Government Resident at Port Darwin—distant 368 miles from Daly Waters—he lying exhausted within 150 miles of the telegraph station; and inexpressibly painful is it to read his letter to Mr. Scott after he had relinquished all hope of succour arriving in time to sustain life, conveying his last wishes, and bidding an eternal farewell to his children and friends.

THE OVERLAND PARTY FROM QUEENSLAND.—The messenger from Mr. Nation described his position as very critical, he being exhausted from want of food; and the necessity of leaving him alone in the bush made the danger still greater. The unfortunate gentleman himself thus appealed to Mr. Scott, in a telegram forwarded from Daly Waters:—"An old friend in sad distress; left in the bush quite exhausted: no horses; riding horses killed for food. Sent travelling companion with this (telegram.) Seek your urgent assistance, extricate me." Subjoined is a telegram from Mr. Knuckey to Mr. Scott:—

"DALY WATERS, 3rd July.

"SIR,—It is with much regret I announce that Mr. Nation died before I could reach him. I have brought in his effects, papers, &c. The following is a list:—Two packbags, containing clothes, &c., double-barrelled gun, one revolver, one compass, riding saddle and bridle, pack-saddle, an old watch, gold ring, £20 12s. in gold and silver, a cheque for £8 11s. 6d., and one mare. I send copy of

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paper which I found buried and addressed to you. Will seal up diaries and other things as you desire, and forward them first chance.

“R. R. KNUCKEY.”

The paper addressed to Mr. Scott is a document of painful interest:

“Tuesday, 30th May.

“Should these reach the hands of Mr. Scott, I again crave of him to favour me with this my last earthly request, wishing him joy and prosperity in this world and in the next. I wish my diaries to be transmitted to (naming friends in Queensland.) These (naming ring and other articles) are my last gifts of affection. I ask Scott to pay postage on these out of my moneys, addressed as before. My deep love to (naming friends and their children.) May God bless them and prosper them. Farewell, dear friends, all. I bid you an eternal farewell. I am in my senses at present, by the blessing of God and Jesus Christ.

“(Signed) W. NATION.”

CHAPTER III.

ADELAIDE RIVER—ALLIGATORS—PORT DARWIN HARBOUR.

ADELAIDE RIVER.—In the year 1864 the Adelaide Government sent out to the north an exploration party of forty men, under the command of Mr. B. T. Finnis. Escape Cliff, in latitude south $12^{\circ} 8' 30''$, in Adam Bay, north-east of Port Daly, the entrance to the Adelaide River, was the first site fixed upon for a settlement, and a stockade was erected and garrisoned, and sundry skirmishes with the natives occurred. Subsequently this was abandoned in favour of the Port Darwin site. From one of the party who often went up the Adelaide we learn that it is a noble river, and navigable by vessels of 200 tons for 100 miles; and some think that Murray River boats with four feet draught of water might go fifty miles higher up. As yet, no passable road from the Adelaide to the diggings has been found, should such be discovered the freight from Port Darwin to Southport would be saved as well as many miles of road traffic.

In ascending this river, on either side are dense mangrove swamps, backed by large grassy plains. Higher up are bamboos, and higher still are red and white cedar—two feet in diameter—which may some day be utilised. A pioneer remarks: “This is a magnificent river. The width at the entrance is about a mile, and to about twenty miles varies from 300 to 600 yards, and contains some splendid reaches. From twenty to fifty miles up the river it narrows

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gradually to 170 yards. The country, for the most part, is low and swampy towards the sea-shore, and on each side of the river; but, receding from it inland, it improves the further you go back. There it is undulating, the soil being rich almost to rottenness, and is well grassed and interlaced with splendid and permanent creeks. These creeks are lined with high umbrageous and tropical-like trees and cabbage palms, which grow to the height of from seventy to eighty feet, as straight as a die, without branching off. The creeks all abound with fish, usually a foot long. Some fine reaches of water were very deep and long, all running fast and as clear as crystal. The climate at this season of the year—winter—is at once the pleasantest and most invigorating I ever experienced in my life; the nights temperate, the mornings cool, with a bracing wind from the east."

ALLIGATORS.—In this, as well as in all the rivers in the Northern Territory, are many alligators of a large size, and even far up the country, in the shallowest parts, they may be seen. In Port Darwin they are not now numerous, as they are disturbed by the shipping. Still, as one or two "old men" are said to frequent the mangrove swamps under Fort Hill, it is dangerous for bathers to venture out too far. Alligators lay their eggs, larger than hens', about fifty at a time, some say 100 or 200, in the sand, and the warmth of the sun hatches them. The natives consider them a *bonne bouche*.

The subject of alligators reminds us of a rather racy story, of the truth of which we are assured, incredible though it may appear. A dashing member of Finnis' exploring party, one D. B. W., with six other members, were pulling a boat up the Adelaide River, when suddenly they espied, basking in the sun, on the river bank, a huge alligator. They pulled in shore and fired direct into his head—the only vulnerable part of an alligator—six rifle shots and also eighteen revolver shots. He, remaining quiescent, was looked upon as despatched, whereupon they landed, surrounded him, and felt his scaly hide. D. B. W., elated with joy, bestrode him, having a leg on either side of the monster—which measured twenty-two feet in length—and contemplatively looked down upon him. The others were laughing and speculating how much money they would make by exhibiting this rare specimen of the *saurian*, and the general opinion seemed to be that, at the lowest computation, the proceeds would be £1000, and that the skeleton would also be valuable; but true it is that between the cup and the lip is many a slip. D. B. W., mounted on his novel *Bucephalus*, was patting his head, and with the air of a victor, had just uttered the words, "Oh, oh! my bold hero, we have you safe enough now," when, to the consternation of each and all, without condescending to turn his head, the alligator raised the film of his glassy eye and scornfully looked at D. B. W., whilst he, as daring a man as any in the expedition,

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remained seated, almost petrified with astonishment—the dead returned to life? impossible! Soon, however, did he realise the fact, for with a gentle wag, or rather uplifted jerk of his tail, the alligator not only dislodged him from his saddle, but pitched him head foremost into the river, and he would have been drowned had he not been an excellent swimmer. The alligator slid off into deep water, and with him vanished all the visions of wealth to be derived from his exhibition, indulged in but a few minutes previously by the whole party.

At the same period, many dogs were devoured by the alligators, who do not confine themselves to the rivers, but prowl about the banks. They can turn round their heads quickly, it is said, and the fact that, independently of the eyelid, the eye is covered by a transparent film which can be raised, is known, as cubs, three feet long, have been examined and watched whilst confined in tanks of water, in the Territory. One of the party alluded to above, Reid, whilst asleep in a boat in the Roper River, has since been killed by an alligator; having his leg over the side, he was dragged out, his screams too late attracting attention to his fate.

Not deviating into Adam Bay, we passed between the Vernon Islands, and made for Port Darwin.

PORT DARWIN.—14th August, at eight a.m. we reached Port Darwin after a passage of twenty-two days and sixteen hours from Adelaide, and sixteen days and eight hours from Newcastle; the sea, the whole distance, having been as calm as a lake (with exception of the gulf.) The entrance to this noble harbour is two miles wide, and has a depth of fifteen fathoms. The tide rises twenty-six feet and runs out seven miles per hour. The anchorage about two miles from the heads, under Fort Point, is seven fathoms, about 300 yards from shore. The harbour is land-locked, contains about seventy square miles, and opens out seven to ten miles wide in parts. The west head is low land covered with jungle to the water's edge; the east head or point has white cliffs which rise abruptly about ninety feet high. Opposite Palmerston, on the western side of the harbour, is Mr. Dillon Cox's selection, the "Peninsula," under the pastoral regulations, upon which a few cattle, the sole bovine species in the Territory for breeding purposes, thrive so well that, for those he has been disposed to sell, he has, in Palmerston, obtained £30 per head. As there is no jetty, when within a few yards of the shore, the boatmen carry passengers on their backs to land, and cargo is landed by being slid along skids from the boats, and very frequently it is left landed, or stranded below high water. At the time we write of, wages usually were ten shillings per day, but sometimes boatmen, to unload cargo, demand twenty shillings per day. To Southport, distant twenty-five miles, freight was £2, and at times £3 per ton, whilst to the shore, from the ship's side, £1 10s. was the rate per ton; passengers were charged one shilling each.

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CHAPTER IV.

PALMERSTON—CABLE AND OVERLAND TELEGRAPH OFFICES— LANDING THE CABLE.

PALMERSTON, in latitude south $12^{\circ} 28' 25''$, and longitude east $130^{\circ} 52' 40''$, is situated about two miles from the heads on elevated table-land. On the beach are the public offices, a row of sheds, constructed of mangrove saplings inserted upright into the earth, close to each other, roofed with galvanised iron. These are Her Majesty's Custom House, bonded stores, and survey office. The town is arrived at by a steep winding road, to ascend which requires no little exertion; in fact, we saw one new arrival so disgusted with the heat of the sun, and the profuse perspiration he experienced, when half-way up the hill, that he descended and re-embarked on the same vessel that brought him; only having seen the town at a distance. Of such mettle are many who decry the country; but never, by like aid, would England have conquered India, nor would Pizarro's conquest have been effected. The streets are wide and laid out at right angles, north-west and south-east. The principal is Mitchell-street, on the west side of which is the Government House, a large wooden bungalow, most charmingly situated, on a point of land jutting out into the bay, having a commanding view of the shipping anchored about 300 yards distant.

A ripple on the surface of the water denotes the course of the cable, as it approaches the spot up the side of the hill, where the shore end, or coil, is deposited in an out-house.

LAYING OF THE CABLE.—The exciting scene of landing the cable, previous to paying it out to Java—the forerunner of a new epoch in the history of Australia—has been thus described: "In October, 1871, the cable expedition arrived. It consisted of the *Edinburgh*, 2800 tons; the *Hibernia*, 3100 tons; and the *Investigator*, 600 tons; Captain Halpin being in command. Messrs. Brown and Stephenson, the electricians for the Telegraph Construction and Maintenance Company, and Messrs. Hockin and Lambert, the electricians of the British-Australian Telegraph Company, and a number of marine engineers and others accompanied the expedition.

"At daylight on Tuesday, 7th November, several hundred men from the expedition commenced landing the shore-end from the *Hibernia*, distant about half a mile away. The huge cable was carried to the shore in bights held up by boats, the men on shore pulling the end by means of tackle. The scene was a most animated one, the men singing at their work, the officers waving flags, and the inhabitants of the settlement looking on. About nine a.m. the end was landed, carried up a shallow trench on the beach to an iron hut just above high-water mark, and the end joined on to the

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electrical apparatus all ready, under the charge of Mr. Stephenson ; and signals were at once exchanged with the ship. A photograph of the scene was taken, success to the cable and Captain Halpin's health were drunk, and then everybody embarked. The *Hibernia* instantly commenced paying out, the *Edinburgh* immediately steamed after her, and the laying of the Australian cable was fairly commenced, the whole proceedings being carried out with the greatest simplicity and celerity imaginable. Constant testing was kept up night and day by the electrical staffs, both on board and on shore, in case of any faults being in the cable. On the 16th a telegram came through, stating that the expedition had arrived within six miles of Banjoewangi, and that the cable would be cut, and the end sealed up and buoyed until the shore end could be got ready. On the 20th they spoke again, and Captain Halpin announced from Java that the cable was complete and in perfect condition, and that telegraphic communication was established between Australia, the mother country, and the western world.

"The cable consists of seven small copper wires—a central one, with the six twisted round it. It is insulated by gutta-percha, over this is a coating of tarred hemp, then a sheathing of galvanised iron wire, with an outside covering of tarred hemp. The deep sea portion is three-quarters of an inch in diameter, the intermediate one inch, and the shore ends (twenty miles in length) three inches in diameter."

CABLE COMPANY'S AND OVERLAND TELEGRAPH OFFICES.—The fine stone buildings on the esplanade, a street facing the sea—seldom traversed by anyone—are the offices and quarters of the British-Australian Telegraph Company. Under the same roof, adjoining the Cable Company, are those of the Overland Telegraph Construction Party, and with singular bad taste—whilst handsome entrances face the sea—the back premises, for 300 feet, present to the eye but a row of shanties, stables, pigsties, and out-offices, all offensively facing the principal street, Mitchell-street, and across which back premises, ingress is obtained to the Post and Telegraphic Offices. The cable operations are carried on by Mr. Squires and six operators, who, having landed direct from Europe, have never been in the other colonies. They are an intelligent, gentlemanly body of men, and the only portion of the community who are furnished with the ordinary comforts of civilisation. Their rooms are lofty, and the walls of the offices are thick. They have a fine billiard table, pianos, and some have wives. Perhaps the greatest luxury they can boast of is plenty of water gratis, for which others have to pay ninepence per bucket. It is a remarkable fact, that although the cable can be seen whilst the operators thereby receive and flash the news to the various colonies, yet not one atom of intelligence ever ekes out; and Palmerston, with its hundreds of inhabitants, patiently awaits the return of the said news by some ship, perhaps two months

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on the voyage. The decease of the French Emperor was known only four months after the fact was public in Adelaide. An ably conducted newspaper now—1874—affords intelligence from the outside world.

On the east side of Mitchell-street are the police station, stone lock-up, the stores of Messrs. Gore and Co., Reynolds and Durand, John Lindsay and Co., Peters and Co., as well as Bieber's and Rundle and Mayo's hotels. In other streets, which are rapidly being built upon, are many stores, those of William Adcock, Caldwell and Co., Hunter, Sinclair and Reynolds, and Fiveash. The population of the Territory in 1874 was about 1700, inclusive of perhaps fifty females, who seem to bear the climate better than the males. The white children thrive well, are plump and hearty, although pale, and usually roam about a portion of the day on the verandahs as naked as born, yet no observation is made by passers-by as to the impropriety. The sun, intensely powerful though it be, seems to have no effect upon their bare heads, which they freely expose.

A chemist, tailor, shoemaker, and cordial maker, ply their trades; and an excellent restaurant is kept by John Edwards, who dines fifty daily, a no easy task in the absence of any fresh meat, vegetables, milk, butter, fowls, or eggs. Still, he makes sundry savory dishes by cooking, in various ways, preserved meat; upon this with preserved potatoes, imported potatoes, hams, bacon, ling fish, pickles, sauces, jams, and excellent bread, his customers do not fare badly; and living is comparatively cheap, the rent of the trees to which the hammocks are slung in the dry season not being of any moment. A Wesleyan clergyman, the Rev. Mr. Bogle, has lately arrived, and is assiduously endeavouring to raise funds by subscription to build a church. He officiates twice each Sunday, when he does not go to Southport. Dr. Millner also reads the Church of England prayers at the Residency every Sunday. But a school is much wanted, as, owing to new arrivals, many children are now in need of instruction. In Palmerston water costs 10s. per load, or ninepence per bucket; but the maidens, "children of nature," who fetch and carry these buckets, or any heavy weight, upon their heads, sometimes—perhaps having forgotten their matutinal ablutions, as well as all their clothes, with exception of the piece of stick adorning the nostrils—on their way up the hill from the well, lave their arms in these ninepenny buckets; but what matters it, "what the eye does not see," &c. The washerwomen, numbering but four, charge nine shillings per dozen. A Russian man and woman, not able to speak a word of English, are working hard, and amassing money at this work. The government officials are a Government Resident, Mr. Scott, and his secretary, the energetic Mr. J. G. Knight; a chief warden, Mr. O'Connor, and two assistant wardens; an inspector of police, Mr. Foelsche, and twelve troopers; a senior surveyor, Mr. Gilbert McMinn; Mr.

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Gardiner, deputy land officer; a medical man at Palmerston, and a talented man at the Reefs. A police court is held bi-weekly. Mr. Peachy is clerk of the bench; and there are about twelve honorary magistrates.

A welcome arrival was Mr. Villeneuve Smith, solicitor as well as barrister. As the whole community is litigious he is thriving, and so valuable are his services accounted, that whosoever fees him is at once regarded as the winner of the case. He first showed his legal acumen on board ship; the steward having apprised the passengers that the last meal on board the ship had been served, Mr. Smith coolly assured them that, according to the Passengers' Act, a vessel must keep the passengers for forty-eight hours after arrival; so it was not the last. On the day he landed his exertions caused the return of £60 worth of spirits to a restaurant keeper whom the police had summoned for sly grog selling. To captains of ill-found ships he is a terror; some have been fined for not adhering strictly to the dietary scale—perhaps not changing the diet frequently; but one he caused to be fined £50, and to return £2 each to sixty-five passengers; the miserable owners had placed on board weevily bread and other uneatables.

PALMERSTON is laid out in 1019 half-acre allotments, and extends nearly three miles across to Fanny Bay, so named by the surveyors after Miss Fanny Carandini—this is prettily and healthily situated, facing the ocean, about four miles from town, a little beyond the town boundary—these half-acre town lots were alienated several years ago by the sale of land orders entitling the holder to 160 acres suburban land, surveyed within thirty-five miles of Southport, at seven shillings and sixpence per acre, and a town lot was given in—but as the government had promised to issue crown grants within a specified time which they had failed to do, a *solatium* of an extra 160 acres was given to each holder of a land order, which now represents 320 acres as well as a half-acre town lot. The Adelaide holders assented to this arrangement but the English capitalists, who held one-half, dissented, and claimed a refunding of the purchase money. In a body they sued the Government in the Adelaide Supreme Court, and gained the suit; to the Privy Council the Government unsuccessfully appealed, and will now return the money, about £60,000, and of course will retain the land. According to the regulations of the Land Act, after November, 1873, no land can be selected in virtue of the land orders; and all the unselected suburban lots will be declared open for selection.

At present, 1874, it is impossible, upon any reasonable terms, to purchase a town lot in the business part of Palmerston. The usual terms for a lease are £52 per annum per half-acre, and subdivisions in proportion; and agents in Palmerston, for the proprietors, will lease lands on these terms. £100 to £500 have been offered for half-acres in fee simple.

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CHAPTER V.

NORTHERN TERRITORY OUTFIT—LICENSE FEES—SOUTHPORT— A MAN OVERBOARD.

OUTFIT.—Although almost any article can now be procured in Port Darwin at a reasonable rate, we recommend a person to take with him the following articles if he intend to travel about: A revolver, none other than a central fire, as those requiring caps are uncertain when wet; we recommend a Tranter, No. 450 or 320, the only weapon furnished to the line repairers by Mr. Little; also 1000 cartridges to match, with a belt and a leather case for pistol; as well as a leather pouch for cartridges, and another for watch and papers, as pockets are not worn; and the only articles of wearing apparel being a shirt and trousers. A hammock, six feet six inches by three feet, with three lashings at either end, each six feet. A mosquito net of unbleached cheese cloth, six feet six inches by three feet three inches, described elsewhere. A fly of American drill, ten feet by ten feet. A pocket compass, also indispensable. A large pot, with cover, of Holloway's ointment, which is efficacious in rapidly curing wounds of any sort, particularly those caused by the sand-fly. Podophyllin pills or Cockles we used. Carbonate of soda and tartaric acid—these in glass stoppered bottles, as powders melt. Sulphate of zinc powders, for applying, diluted, to the eyes, which, owing to the intense glare, are often affected. Quinine in bottle, chlorodyne, and castor oil. A breech-loading fowling-piece, and cartridges to match, as game is very plentiful all through the country; and at times a person could amply regale himself thereon; the multitudes of brilliant plumaged paroquets also make excellent stews. Two copper coloured lofty and large leaved wide-awake hats—pith hats are unsuitable for travelling amongst horses.

LICENSES are issued by application to the clerk of the licensing bench, at Palmerston, which sits every three months.

A publican's license—granted by the licensing bench, after the police certify as to the state of house, &c.—per annum, is..				£25
An auctioneer's license for town is				25
An auctioneer's license for country is				10
An auctioneer's clerk's license				10
A storekeeper's license is granted by the licensing bench				5
A wine license to retail wine to be drunk on premises, obtained on certificate of the licensing bench and under publicans' conditions				2

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A storekeeper's colonial wine license, to sell in bottle, not to be drunk on premises, is granted by a special magistrate, or by two justices...	£1
A miner's right, which terminates every December, is 10s.	
An appraiser's license granted on certificate of two householders	5

SOUTHPORT.—A MAN OVERBOARD.—At seven miles distance south from Palmerston, across the bay, is the South Arm, as it is called, of the harbour, where is the embouchure of the River Blackmore; twenty miles up which is Southport. It is a very pretty river, 300 or 400 feet wide, up which vessels of 400 tons can sail as far as Southport. Mangrove swamps right down to the water's edge line each side, and in the rear or background, on the west side of the river, is good grazing country. Southport is by land forty-five miles from Palmerston, which distance is saved by landing cargo direct at Southport, whence the drays load for the reefs.

Having started from Palmerston at three p.m., owing to the heavy tide and no wind, we had to pull the boat all the way, and did not reach Southport until ten p.m., when it was so dark we could not see the landing-place, as there is no available jetty. Two large vessels were side by side, the *Loch Fern*, just unloaded, and the *Nerio*, about to unload. Up the latter we had to climb, and across to the inner vessel, from which to the shore was suspended a plank thirty feet long, having a rope very slack for hand rail. The transit along this plank will ever remain engrafted on the memory of the writer, for the oscillation of the plank when midway caused him to fall plump into the river, a height of thirty feet; as the vessel, 400 tons, being empty, was high out of water, and the plank at a steep angle. Then ensued a scene which defies description. Lamps were placed along the bulwarks, and a cry of "a man overboard" was raised by the intoxicated lumpers, who had been unloading the vessel. Luckily there was a deep hole into which the height of the fall caused us to descend to a great depth—feet downwards—otherwise we might have been dashed against the adjacent rocks, known to exist at a shallower depth. Fortunately we can swim; up we rose, spat out the water we had so suddenly imbibed, and as the cliffs were slimy and steep, struck out for the ship, the *Loch Fern*, and swam up and down, alongside, whilst search was made for a rope. At last this was thrown out to us, and we made ourselves fast to it, and up they hauled, when the rope slipped and held us fast by the neck, to which lustily objecting, they, at our request, dropped us again into the river. We then wound the rope under our arms, and, after another haul, up we came on to the deck dripping wet, and entered the cabin, when the lumpers there and then, vociferously demanded and caused us to sign a cheque for one pound with which to drink our health, for saving us, as they facetiously observed, "from a watery grave." Such

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hilarity never did we see before, although we could discern no fun whatever. Having been exposed to the sun all day, and freely perspiring when immersed, coupled with the excitement and fear of the alligators, nightly disporting around these ships and feasting upon the offal, we almost felt doomed to awake with violent fever, then very prevalent; as seventeen persons were then laid up in one shanty, where four deaths occurred in a week. However, although very ill, for hours we walked about next day under a broiling sun looking for a hat, as the stream had on the previous night swiftly carried ours out of reach. We arrived at Captain Paul's camp, who kindly offered us his hammock and mosquito net; in which we reposed during the intense heat of the day. And then did we begin to reflect upon the mutability of mundane affairs, and to call to mind the similarity of our present position to that of Benjamin Bowbells, in the "Illustrious Stranger," when he, cast ashore on an unknown island, dripping wet, utters: "This comes of seeking my fortune; this comes of travelling to foreign parts. Oh, that I now heard my namesake Bow Bell ringing a Bob-major." It did appear unwise to come all this distance, to encounter so many disagreeables, to be drowned, or to be eaten by alligators; but these lugubrious thoughts were but transient. In three days we felt quite well, and determined to start for the reefs, respecting which we could learn but little in Port Darwin; as so few had made the journey, and but few, other than the company's men, appeared disposed to do so, as there are no stores along the road, and *bouilli* is three shillings per pound; other articles being in proportion on the reefs.

Southport has a population of about 200 persons. There are two hotels, a blacksmith, saddler, and stores, owned by Messrs. William Faulkes, Reynolds and Durand, Skelton, Miller and Clarke and Wills. To Palmerston is a bi-weekly mail; a daily steamer, the *Dot*, and several boats ply between the two places. The fare is ten shillings.

Since inditing these remarks as to the rise of Port Darwin in 1874 a great change has occurred. The Adelaide capitalists have withdrawn their support from the prospecting companies; the limited companies have collapsed, and their men have quitted the Territory, which in April, 1875, numbered about 300 whites and 200 Chinese. Several claims have fortunately been well conducted—are raising gold, and paying dividends; others are equally promising; and as the Adelaide Government have determined to make Port Darwin a free port, we have every confidence that, ere many years elapse, Palmerston will become of some importance; that a trade will spring up with the Islands in the South-eastern portion of the Eastern Archipelago; and that Indian planters, when aware of the very liberal land laws of the Territory, and of its salubrity, will be attracted thereto; as well, perhaps, as Chinese storekeepers, than whom, no men are more enterprising.

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CHAPTER VI.

JOURNEY INLAND.—ARRIVAL AT YAM CREEK.

ON 30th August we started to walk to Yam Creek, unencumbered, as—thanks to the courtesy of a mining captain, our hammock, mosquito net, and calico fly were placed upon the swag dray of the party we accompanied.

1st day.—We made Campbell's Horse Camp, seven miles from Southport, and two miles from Tumbling Waters, where we found feed and water holes, having turned off the main road a distance of two miles for the purpose. We slung our hammock between two trees, hoisted our mosquito net, and having hung the fly, so indispensable to keep off the dews, we soon found out the mode of sidling into the net; and blessing the inventor of the same, slept well in defiance of the innumerable mosquitoes buzzing and thirsting for our blood. Verily this mosquito net is a real blessing, cheap, strong, and weighing but a few ounces, and is most effective. It is a matter of astonishment it is not used up the Darling and other parts of the colonies where life at times is said to be unbearable, owing to these pests.

2nd day.—We proceeded seven miles to White Hawk Jungle, and camp; the grass and water plentiful. Here are assembled many drays bound to the reefs with stores and machinery, and the road is much cut up; the impalpable dust, owing to so much traffic, being terrific.

3rd day.—We passed Collett's at five miles distance, where is always feed and water. Prospecting parties, well equipped, daily pass us. At a further distance of five miles we camped at the Finnis' River, where we found abundance of water and feed. Up to this point, twenty-four miles, the country is a dead level, the soil is miserable, the road very heavy, and covered with ferruginous sand two or three inches deep. The ground so far has been strewn with quartz, and very little grass have we seen; but hereabouts the country improves, and to the westward of the Finnis, all the way to the Banyan, is some splendid land, as we are informed by the surveyors. The country now becomes undulating and rangy; several parallel lines of hungry porphyritic-looking quartz outcrop, and there are here and there immense boulders of a sort of granite conglomerate. Huge ant hills from eight to fifteen feet high have been frequent, denoting poor country. Although in places the land is densely timbered, it is not impassable, and all the trees we saw were insignificant in size, crooked, stunted, and young, twisting about as having been blown in all directions by cyclones—many are hollow and filled up to the very top by the ants, with clay worked internally; the overland telegraph posts they delight to ascend,

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and first attack the peg driven through, which carries the insulator. We saw native fig and plum trees, as well as miserable-looking red and white gums. Along the rivers we noticed the elegant corkscrew pine, which has long wide leaves like the pineapple, growing up spirally round the stem of the plant. There are many wild flowers and shrubs of the cryptomaria sort, having delicate, elongated, and serrated leaves, bearing a beautiful pink and blue flower; and the wild cotton tree, with a yellow or pink flower, thrives and looks hardy—oftentimes ten feet high. There are many trees we have never before seen, and this season, September, seems to be the fall of their leaf, for the ground under them is covered with leaves, whilst they are quite denuded; but out of the bare stalks are growing as though only stuck on, large pink, bell-shaped, wax-like flowers. In certain localities there is some large timber fit for building purposes; and on the Margaret, at Yam Creek, the bed-logs of the machinery are cut from timber two feet through. On the Adelaide River is some splendid cedar, we are informed.

4th day.—We proceeded to Rumjungle, distance five miles, where is water and feed. Here, a month ago, were some 200 natives encamped, to have a sort of corroboree to celebrate the marking of their young men; a traditionary, rather than a religious ordinance. Nine miles further we reached the Banyan River, where we camped. There is abundance of feed and running water, and some fine land in the neighbourhood. On a hill to the left is an extraordinary tree of very large proportions, the Banyan tree, upon which we carved our name in full, as many others have done. This singular tree has wide spreading branches which appear to have shot down roots into the ground, and parasitical climbers encircle them. Down the Banyan Creek or River the feed is plentiful, and good sport may be had, as myriads of flying foxes, having a body the size of a cat, a face like a fox, and wings, when spread out, which measure three feet across—in the Phillippine Islands we have seen them to measure six feet apart—disport themselves in the trees, hanging heads downwards to the branches by the hooks attached to the wings, and are never tired of screaming; we could have killed them all day without, apparently, reducing the number. One of the party also shot a beautiful white and grey owl of large size, and many parrots, which made excellent stews. Quail are plentiful in this neighbourhood, likewise wild ducks.

5th day.—We remained in camp to rest the horses.

6th day.—We proceeded three miles over the Packman's Hump, a very steep hill, and the first bad road we have seen here; one of the drays broke down, necessitating unloading and reloading, a work of some hours. Two miles further is the Stapleton River, and to the left, about one mile, is the reef discovered recently by W. Barlow;

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eight miles beyond the Stapleton is the Adelaide, crossing fifty miles from Southport and forty-seven miles from Yam Creek, and we camped. The overland telegraph party, repoling with iron poles, had a large camp here. The river runs across the road, and the feed is good in the rear of Dogherty's restaurant on the rise on the other side of the river. We deferred crossing, as on this side it is very narrow, precipitous, and sandy; this is the worst pinch on the road.

7th day.—After many hours' labour we safely crossed the Adelaide. It is steep on both sides, and for 200 or 300 yards after crossing there are deep sand holes and rough boulders. In the wet season it becomes a sea, and is impassable for days and weeks together, till the waters subside. Four miles further we camped at Birrell's Creek, the water and feed being indifferent. This is the scene of the murder of Hennings, in October, 1873, by blacks, on the very day after we had camped on the same ground. Hennings and his mate Gunter were camped, when three natives accosted them, asking, "Tom, Tom,"—food—which they gave to them; as night approached they made signs to them to go away, which they did. After this they fell asleep, and Gunter, a very respectable, harmless man, a fellow passenger of ours, only knows that, when he awoke next day, he felt his own head bruised at the back, and to his horror he saw that his mate, Hennings, was dead. His head had been smashed with a stake, and on his person, untouched, were £150 bank notes, and £150 shares. Captain Douglas, late Government resident, was also camped here, and with him we passed the evening. He appears to have unbounded faith in the adaptability of the soil for grazing purposes, and for the growth of tropical products, as well as in the great future of the Territory from its commercial position. For three days we had been suffering intense pain in both eyes, caused by sandy blight, but in one minute Captain Douglas relieved us. We lay down on the ground in his tent, and whilst Mr. Hassel held the candle, the captain dropped into each eye one drop of fluid, instantly curing us, and inducing us to utter hurrah for Faulding's Collyrium, as he calls it, which we commend to travellers on dusty roads. On the left, on the Adelaide plains, is a very large lagoon, and in some places the grass is as high as your head. We here killed a snake four feet long, and started numercus quail.

8th day.—We made eight miles and arrived at No. 1 depôt, but found neither water nor grass; the water-hole being dried up. This is twelve miles from the Adelaide crossing; eight miles further, and two before Bridge Creek is reached, we turned off to the left down a creek, where we found sundry water-holes and good feed in sight of the road.

9th day.—We remained in camp to graze the horses.

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10th day.—At two miles distance we crossed Bridge Creek, and three miles further on the right is the turn off road to the Royal Reef, Palmerston Co., and to Douglas's Reef. We reached the Howley Crossing, two miles further, and camped, being five miles beyond Bridge Creek. Here is excellent feed, and three large billybongs. In the third from the road we had a swim. Four miles from Howley Crossing is the John Bull Reef; a finger-post indicates the turn off to the left to reach the camp. A mile further is a deep hole in the road; a pinch. Two miles further, *i.e.*, six miles from the Howley, is the turn off road to McMinn's famous Britannia Reef, which is about two miles off the Telegraph-road. Here are some enormous anthills, over twenty feet high, near the turn off. Five miles beyond is Gum Flat, twelve miles from Yam Creek; we camp near Brock's, feed and water abundant; four miles due east is the Fountain Head Reef, lately discovered.

11th day.—Eight miles further are two roads, the right hand leads to the Shackle telegraph station, the left to Yam Creek, each distant about six miles. We take the latter road and arrive at Yam Creek at eleven a.m. The entire distance, ninety-seven miles from Southport, with the exception of eight insignificant pinches, may be called an excellent bush road in summer, well watered and grassed every five or ten miles; and persons with fowling-pieces may have much sport along the road, as quail are abundant. The natives are but little feared, and seldom seen. They know everyone to be well-armed, and so are inspired with wholesome fear of the white man. Moreover, they have been invariably carefully and kindly treated by the government. In fact, in the Territory it is a common saying that the killing of a native would be more quickly followed up and avenged by the Adelaide Government, than would be the killing of a white man by a native.

CHAPTER VII.

CLIMATE—SEASONS—SOIL—TROPICAL PRODUCTS—PLANTATIONS.

THE CLIMATE of Port Darwin we believe to be as good as any climate can be in the same latitude. It is not so warm as Java or Singapore, and the weather is delightful and temperate from May till August. Palmerston is situated on a peninsula, and it enjoys daily, during the south-east monsoon, a refreshing breeze; and as you proceed up the country southward, the atmosphere becomes cooler. Of course, to persons who have never experienced a warmer climate than South Australia, Port Darwin will seem to be excessively hot; and the more unbearable, as the Northern Territory is utterly devoid of every comfort of

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civilisation; even that of a daily fresh water bath is procurable by but a few government officials. The houses or sheds are neither heat nor rain proof; but these discomforts will soon pass away, and people will live adapting their custom of living to the climate. They will learn that sleeping on the ground, dry though it be, drinking alcohol or cold water to excess, daily and hourly exposure to the sun, and even exposure to night air just after the wet season, are pernicious habits, and induce fever and ague, or dysentery, oftentimes in a few days a fatal complaint, if not checked on the first appearance. In the Northern Territory, apparently, a person can with impunity sleep in the open air, if protected from the very heavy dews by a calico fly, as the writer has so slept every night in a hammock for months in the dry season; but in every hot country he has visited previously, the night air, or rather the land breeze, is accounted in the highest degree prejudicial to health, and the cause of fever. The Territory, until after last wet season unusually late, has been hitherto free from diseases; but fever and ague then seized nearly all residents, yet few cases proved fatal, unless neglected. Fever often comes on with fitful headaches, a desire to vomit, and then to eat, yet vomiting as often, with unusual sweating and general debility. It is seldom fatal, but utterly prostrates the patient for days or even weeks, and probably he may have ague which comes on daily at the same minute of time, once in the twenty-four hours. For half an hour or more, he shivers all over in the hottest weather, his teeth chatter, and his fingers and toes keep incessantly on the move, and piles of blankets heaped upon him, fail to warm him. The "shakes" having shaken themselves out, he then perspires immoderately for the same length of time as he shivered, and then rises and goes to his business, maybe riding about the country after horses, till the same hour next day the shakes recur; and so on, for a few months. It is not uncommon whilst conversing with a man in the street, that he, looking at his watch, suddenly remarks, "Excuse me, I'm off; my time is nearly up for the shakes, and I must get home." One patient we saw had an ague cake in the left side, i.e. an enlargement, large and hard, of the spleen; he could not rise for days, and regularly had the ague. A long continuance of quinine loses effect, and for the time impairs the sight and hearing. Dysentery is occasional and must not be neglected. Scurvy, owing to want of vegetables and poor food, has been frequent. In the absence of vegetables, ale is the antidote, and all the medical men recommend stimulants to be taken daily in moderation. The mortality has been small. Dr. Millner, the coroner, informs us that, up to last November, but thirty-five deaths have been registered in the whole Territory since its settlement, nine years; and the burial-ground contains but eighteen bodies. Elsewhere we suggest that the government take action in largely planting forests of the *eucalyptus globulus*—blue gum—which, in far more deleterious climates, has had the effect of rendering them healthy.

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The following report on the climate to the Adelaide Government is by Captain Douglas, late Government Resident:—"I fully bear out all Dr. Millner reports as to the salubrity of the climate, provided settlers are provided with a proper scale of rations. The persons employed under my own immediate orders have performed nine hours fair work as stockmen, masons, carpenters, and labourers. I have as much as possible prevented them from remaining exposed to the sun. Those engaged in the bush were necessarily under exposure, yet no single case of sickness here can be attributed to such a cause. The gardener and others who have worked in the gardens have not in any degree suffered. After this experience, it may be inferred that, with ordinary attention to diet and general health, labour may be employed in this climate without risk to the workmen. From my own personal experience of the climate and its effects on the members of my family, among whom there are three young children, two being very delicate on leaving Port Adelaide, I do not hesitate to state it bears very favourable comparison with South Australia proper. The seasons may be divided thus—1st. The cool and dry season, from April to August, when the wind blows from S.E., with a clear sky. 2nd. The dry and hot season, from September to December, when the wind blows from S.E. to S.W., varied by squalls from S. to E. 3rd. The wet and cold season, from January to March, when the wind varies from W.S.W. in the commencement of the season, to N.W. during February and March, during which months it often blows very hard. The cool season is most delightful, the temperature during May ranging on an average from 69 deg. at night to 83 deg. in the middle of the day; the S.E. monsoon blows fresh and dry, but at night there are heavy dews, which tend to keep up vegetation. The dry and hot season is perhaps the most trying part of the year as far as heat is concerned, but it is not unhealthy. On many occasions during that period last year I was in the saddle many hours, including the hottest part of the day, but I never suffered from it in any way. No case of sunstroke has occurred since I have resided here. For the cultivation and maturing of tropical fruits there can be no finer climate in the world than this, as immediately the wet season is over the fine warm days soon ripen the plants, which attain a most luxuriant growth. In this the country bears a most favourable comparison with the southern parts of Queensland, as there sugar and cotton plantations, at about the time of the plants arriving at maturity, are often most disastrously affected by frost and heavy rains."

In the Territory during the months of August, September, and October, not the coolest season, the writer walked almost daily not less than fourteen miles per day under a scorching sun—seldom protected by an umbrella—and experienced no ill effect, as would assuredly result from such an indiscretion in Java, Singapore, or Manila, the last in lat. north, 16°. But the climate of the Northern Territory, as is Australia generally, is an anomaly, thus commented

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upon by a Quarterly Reviewer, writing about thirty-five years ago. Touching the whimsical deviations from the ordinary rules and operations of nature, in the animal and vegetable parts of the creation, as exemplified in the physical constitution of Australia; he remarked that "he must be a dull traveller indeed, who does not learn something new from these regions, which yet are so imperfectly known to us. We have in one or both of these colonies—Australia and Tasmania—birds without wings, as large as deer, their bodies covered with hair instead of feathers, beasts with the beaks of birds, swans that are black, and eagles white. Here, too, we find the ferns, nettles, and even grasses, growing to the size and shape of trees; rivers running from the sea, and lost in the interior swamps; trees that are ever green in spite of frost or snow; extensive plains, on which, as a writer tells us, one tree, one soil, one water, and one description of bird, fish, or animal, prevails alike for ten miles or for one hundred. This is New Holland, says Field, where it is summer with us, when it is winter in Europe, and *vice versa*; where the north is the hot wind and the south the cold; where the humblest house is fitted up with cedar; where the fields are fenced with mahogany, and myrtle trees are burnt for firewood; where the kangaroo, an animal between the squirrel and the deer, has five claws on its forepaws, and three talons on its hind legs like a bird, and yet hops on its tail; where the mole lays eggs, and has a duck's bill." He here alludes to the ornithorhynchus, or duck-billed platypus, so common in Gipps Land, and even near Melbourne in the Yarra. It is covered with fur exactly like a mole, with a bill precisely similar to a duck; has teats, and is said to suckle its young, but it is a moot question whether inwardly or outwardly, so little is yet known of its habits. It lays eggs—this is not generally known—less in size than a sweet pea, of which twenty have been found in one bag by a bird stuffer, Mr. Gaskell, of Melbourne, as he informs us;—the male has a formidable spur or hook on each hind leg—rolls itself up like a hedgehog, lies in form as a dog; and is a combination of fish, bird, and quadruped. "Where there is a bird with a broom in its mouth instead of a tongue; where there is a fish, one half belonging to the genus *raia*, and the other to that of *squalus*; where the pears are made of wood, with the stalk at the broader end; and where the cherry grows with the stone on the outside. Captain Hunter describes birds with the head, form, and plumage of the parrot, and the long slender legs of the seagull; and others with the legs and feet of the parrot, the head and neck made and coloured like the common seagull, and the wings and tail of a hawk. He also states himself to have seen trees bearing three different kinds of leaves, and to have found others bearing the leaf of the gum tree, with gum exuding, and covered with bark of a different kind."

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SEASONS.—Guided by the experience of residents long in the Territory we think the seasons may be thus described. The dry season is from May until early in October, during which time it seldom if ever rains. In October there may be occasional thunder storms and very heavy showers of one or two hours' duration—we experienced a few. Trees were rooted up, and insecure roofs blown away by an irresistible cyclone. After some heavy peels of thunder, the reverberation of the same became dull, rumbling and unceasing whilst the storm lasted. Vivid, incessant and terrifically grand was the sheet and forked lightning dancing about in all directions; the whole scenery effulgent as it were by grand illuminations of the lime light. In November the weather usually clears up till the middle or end of December, when the wet season fairly sets in, and all travelling ceases. January and February are the two wettest months, but, although the showers are heavy and frequent, they last no time. The rain fall is marvellous. In March, perhaps, the weather may hold up, and the rain is less. In April the weather sets in fair, but the ground remains so saturated by the water, undrainable, that the roads do not become really dry till May or June; and the exhalations of miasma, caused from the intense rays of the sun drying up the ground, are supposed to be the precursors of fever and ague; although the weather becomes more enjoyable, and the nights cooler, requiring oftentimes the use of a blanket.

SOIL.—As to character of the soil, again do we quote Captain Douglas, as follows:—"The land in the Northern Territory presents every variety, from the most barren stony rises to the richest alluvial undulating country. In the vicinity of Palmerston the table-lands consist of broken ironstone with a strongly impregnated ferruginous rich soil. The sugar cane transmitted was grown in soil of this class. As the coast line is left the country improves; in many places there are large tracts of the richest deep chocolate soil, land which can be easily cleared, and where the plough can be used with the greatest effect. These lands would grow anything in any climate; nothing can surpass their richness or the favourable formation of the country in which they exist, the ground being full of gentle undulations, giving every variety of aspect, and the most advantageous soil for drainage where it is required.

Nothing can exceed the inducements held out to squatters in this country. It is impossible to conceive a finer place for breeding and maturing horses and cattle. It needs no special report on the subject, as in most places it is only necessary to make transient examinations to prove the eligibility of the country for stock. Horses that were found by Mr. McLachlan, near the Adelaide River, were almost too fat to travel, and this was after the dry season in September. In my opinion the settlement of this country will mainly depend on its pastoral settlers; the cultivators of sugar, cotton, and other tropical productions; and, not at any remote date, a large digging population,

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will find remunerative employment." After detailing his experience in the cultivation of sugar and cotton, Captain Douglas closes his report with an abstract of the cases of sickness during April and May, 1871. The list contains the names of two persons only, both of whom had been laid up by accidents. We have said that for twenty-five miles from Southport the land is miserable, but in the neighbourhood of the Finnis' River it improves, and to the westward of the Finnis, Rumjungle, and Banyan rivers or rivulets is some splendid land. That cattle thrive well the condition of the government bullocks attests, and we learn that to the eastward is a large tract of grazing country more easily accessible from the Roper River.

FRUITS AND TROPICAL PRODUCTS.—As the heavy dews and heat promote such rapid vegetation, and as there are varieties of rich soil, probably most if not all tropical fruits will here attain perfection. We know that water melons, muck melons, and cucumbers, merely thrown upon an ash heap in Palmerston, reach maturity in little more than two months; and that pineapples, bananas, and ginger, grow luxuriantly, we can daily see in the government garden. We have seen in Singapore and Batavia the following fruits; and know no reason why they cannot be introduced to the Northern Territory. The mango and pomalow are both delicious fruits, as also are the Durian, jack fruit, custard apple, and bread fruit; all these are very large fruits, having skins indented like orchids, with a bloom of different hues upon them, but do not reach perfection beyond 15° from the equator; on a desert table they present a grand appearance and are luscious. Seeds of these fruits are obtainable in Batavia and Singapore. The yam and sweet potato ought long since to have been introduced; for, beyond planting, they require no care whatever, and thrive anywhere within the tropics. The yam is a very floury, large sort of potato, with no sweetness. The sweet potato resembles an ordinary potato, but is highly saccharine and very nutritious. Throughout the Eastern Archipelago these and fish are the staple articles of food of the natives, who are all well nourished.

The climate of the Territory, and, doubtless, some of its soil, is adapted to the growth of sugar, cotton, tobacco, cocoa-nuts, and castor oil. The wild cotton plant, eight feet high, grows luxuriantly; Mr. Skelton, in Palmerston, accidentally threw out of doors some fine pods of Fiji cotton, and some six months after, they had grown up and flourished exceedingly.

COCOA-NUT OIL is obtained from the cocoa-nut palm; which, doubtless, will grow as well here as in Queensland, in the northern parts of which it is being planted.

THE CASTOR OIL PLANT will certainly thrive here, and the production is most lucrative. There is a never-failing and unlimited demand for both cocoa-nut oil and castor oil; the natives use the

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former in place of candles. All houses, be they elegant or mean, are lighted up by cocoa-nut oil lamps, which are a sort of glass inverted basins, suspended by three ornamental brass chains to the ceiling; the oil therein is always liquid, and a wick floats on the surface.

"THE COCOA-NUT PALM.—Cocoa-nut planting is becoming common in the northern sections of Queensland, and even on the islands in Moreton Bay the plant is found to grow rapidly and strong. It likes a good loamy soil near to salt water. In planting, the nut is covered with about three inches of soil."

As to the cultivation of the castor oil plant or bean, which yields 100 bushels to the acre, giving two gallons per bushel, what can be more encouraging than the following letter to a Queensland paper?—

"THE CASTOR OIL PLANT.—Many thanks for your article of last week upon the castor oil bean, which contains much valuable information; but as there appears some misapprehension as to the quantity produced per acre, I send an extract from Simmonds' Vegetable Kingdom, a book of which I have just procured a copy; it says—

"The *Palma Crista* grows continuously for about four years, and becomes a large tree in constant bearing, ripening its rich clusters of beans in such profusion that 100 bushels may be obtained annually from an acre, and their product of oil two gallons per bushel.

"There are several species, all of which yield oil of an equally good quality.

"A shrubby variety is common in South Australia and other parts of New Holland.

"*Ricinus lividus* is a native of the Cape of Good Hope; it is a hardy plant of the easiest culture, and will thrive in almost any soil, whether in the burning plains, or the coldest parts of the mountains. The seed should be planted in the tropics in September, singly, and at the distance of ten or twelve feet apart; they will yield the first season, and continue to bear for years. When the seed pods become brown they are in a fit state to pluck. It often grows in the east intermixed with other crops.'

"JOHN CAMPBELL.

"Bremer River Mills, 9th September."

GRAM is a tropical pulse of a grain similar in appearance to convolvulus seed, and we feel certain this cultivation, if introduced to the Northern Territory, would prove highly remunerative. Horses fed upon it and paddy, which is rice in the green state, in Java, Singapore, and Manila, as we have seen, fatten rapidly; but like barley it is safer to moisten gram before feeding the horses with it. In 1853 gram was largely imported to Victoria from India. Horses fed upon it, partially, bear a glossy coat.

PLANTATIONS.—Sooner or later plantations of all these tropical products will be formed by enterprising men, who (rich and suitable land being so easily acquired in fee simple, up to 1280 acres) cannot

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fail to reap vast profits, when they employ Asiatic labour. The country is said to be well watered. But the liberal clause of the Land Act which authorises the selection of land required for plantation purposes, cannot be availed of after 1st January, 1876—although it may be re-enacted. It is to the following effect:—An applicant for country land required for plantation purposes can select not less than 320 and not more than 1280 acres, at an annual rental of sixpence per acre; and at the expiration of five years he can apply for his land grant, without further payment; the rent which he has already paid during the said five years being the purchase money in full, viz., 2s. 6d. per acre. But he must prove that at the expiration of two years from date of his application, he had cultivated one-fifth of the entire area “with any of the aforesaid productions, rice, sugar, coffee, tea, indigo, tobacco, or cotton, any or all of them, or any other merchantable tropical production.” And that, after such second year, he has annually cultivated one-tenth of the entire area; and that at the expiration of five years he, when he applies for his land grant, has one-half of the entire area under cultivation with any of such productions; and that the whole of such land is enclosed with a fence, wall, or permanent hedge.

CHAPTER VIII.

COOLIE LABOUR—APES’ LABOUR—TIN MINES—HORSE BREEDING— PACKING OVER MOUNTAINS.

COOLIE LABOUR.—From observation of the lassitude experienced by those performing manual labour in the Territory, we are convinced that its resources can only be developed by coolie labour, which can be so cheaply and readily imported from China, and some parts of India. The writer, whilst in China, saw cargoes of labour shipped systematically to California and Sydney. A supercargo and vessel having arrived, he used to engage a comprador to collect the coolies, willing enough to fly from poverty. These, when brought down to the coast, were nearly naked, whereupon a dungaree suit was given to each, as well as a small advance of money. But oftentimes coolies are to be engaged at Singapore. During a visit there, some years ago, we learned that annually 10,000 used to arrive by the junks; whence they were hired, and became distributed amongst employers of labour, at various pursuits, in the adjacent islands of the Eastern Archipelago. When the monsoon in full force blew down the China Sea, the junks, some 500 or 1000 tons, spread their mat sails and quickly were wafted down to Singapore. Here, they erected a house, covering all the deck, and patiently awaited the change of the monsoon; and, when in full strength up the China Sea, away they went back to China, after the owners had disposed of their “notions.”

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To illustrate the advantages derivable from the employment of Chinese labour, we may remark that, in the richest tin producing country in the world—viz., the Island of Banca—the tin mines are wrought by Chinese contractors, who engage gangs of coolies—perhaps 300 in a gang—and under the direction of Dutch engineers raise and extract the tin. In 1852 a merchant in Singapore, pointing to a stack of tin ingots, fifteen feet high, just arrived from Banca, observed to us that the deposits were infinitely greater than those of the mines of Cornwall. How long they have been working Banca mines we know not, but we read that in 1846 the production was then 60,000 peculs per annum—a pecul is 133½ lbs. For the tin in a pure state, delivered on the coast, the government then paid six dollars per pecul, which realised in Batavia sixteen dollars per pecul. So that the net profit would be ten dollars, less freight and charges, half a dollar per pecul. In Singapore a Mexican dollar varies, according to rate of exchange, from 4s. 6d. to 4s. 9d. Spanish pillar dollars in China are worth eight per cent. more than Mexican, so that 108 of the latter in China only represent 100 dollars Spanish. The cost of the coolies from Singapore to Port Darwin has been £9 6s. 6d. per head. The wages are to be eight dollars per month, with rations for two years, besides, each man is then guaranteed a return passage, or, in lieu of such, to be paid £5.

Passage-money	£4	6	0
Commission, selecting, &c. . . .	2	5	0
Captain Douglas's expenses (say) ..	1	10	0
Food on voyage	1	0	0
Medical attendance and examination ..	0	2	6
Sundry contingencies	0	3	0

Per coolie £9 6 6

COOLIES AT HONOLULU.—The *Hawaiian Gazette* of July says:—"The Norwegian barque *Kvik* brought 114 passengers from China, who were offered a free passage by the Hawaiian Government, in consideration of their migrating hither to remain as permanent settlers. They come in gangs or companies of eight to seventeen, each having its head or chief, and comprise the finest labourers that have ever landed here. Most of them have been engaged in rice culture in China, and we understand that they intend to continue in the same branch of agriculture, than which none is more remunerative. Each of these expert labourers can raise annually ten thousand pounds of rice, which will increase our product of this article fifty per cent. We are informed that large numbers of Chinese agriculturalists are ready to leave China on the same terms—a free passage and liberty to engage in such labour as they choose on arrival here. The question arises, to what extent shall government assist them, when the great need is for labourers on the

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plantations? Is there any practicable way of introducing free labourers to work sugar plantations? We think the system which has been adopted will eventually remedy the want."

APES are now employed in gangs, as coolies, at Acheen, in Sumatra and adjacent islands—we trust Dr. Darwin will not claim this fact in support of his theory of the descent of man. "A correspondent of a Ceylon newspaper writes that large apes are now regularly employed in the straits' settlements to pull cocoa-nuts. These monkeys are imported from Acheen in batches, like coolies, and are marched round the plantations by their owners, who let them out on hire. A line is first attached to each of these peculiar labourers, and he is then sent up a tree, where he is said to select suitable fruit with great discrimination, and to twist the nut round and round until it falls to the ground. Each successive fall of a nut is hailed by the hairy operator above with a jump and a chuckle of satisfaction."

PRODUCTION OF TIN ON THE ISLAND OF BANCA.—A writer in the *Queenslander* informs us:—"The tin is found in Banca as stream tin (black, and at times light brown,) and as lode tin. At the present time the Dutch government carries on the works in Banca entirely for the sake of stream tin, of which enormous deposits are found in the valleys. The shafts are from nine to thirty feet deep, and are sunk in loam, red and blue clay, coarse and fine sand, and tin ore. The tin deposits are usually from three to twenty-two inches deep, and in some instances they are even much greater. Tin mines are all conducted under the inspection of European engineers, with relays of from sixty to 300 workmen. The working of these in open trenches is undertaken from the lower end of the valley. At the commencement, a dam is made right across the valley, and the water having been drained off, is collected behind, and at the same time is used for washing. The treatment of the tin ore is very simple. After washing, the mineral is roasted in a reverberating furnace, in order to expel the arsenic, and to separate the sulphur from the iron and copper. The roasted masses are then placed in large water holders, where the sulphates of iron and copper are dissolved, and the oxides of tin, iron, and copper precipitated. After drying in the air, the oxides are melted with charcoal in a shaft furnace nine feet high, consisting of a cast-iron cylinder, lined with fine clay, into which bellows send a blast of air from underneath. The reduced tin then runs with the dross through the gutter or small hole into the basin in front of the furnace. From time to time the liquid dross is removed, and when the basin is filled with tin it is drained off into a second one. In this stage any foreign matter still connected with the tin separates itself. After this method a tin is produced in Banca, which is recognised as the best in the market. It is soft, flexible, easily malleable, very clean, of a brilliant bluish white colour, and smelts

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very easily. The government furnish the Chinese workmen only with mining engineers, overseers, and furnaces. Everything else, including implements, chain-pumps, &c., they have to provide themselves. They receive from the government 5 dollars and 9 cents for every hundred pounds smelted tin. The net earnings of the government have been in Banca about five millions a year. The tin deposits are very rich, and of great extension. The most remarkable are to be found among the Merawang, Bockit, Pelawang, Loongi, Lean, and Paceo hills.

We understand that, of the coolies landed last year at Port Darwin from Singapore, about one-third had syphilitic diseases. This fact does not betoken much vigilance on the part of the authorities of the ship, as the men had been all passed by Dr. Guy, after which some thirty-four men, during the night before sailing, were smuggled ashore, and unsound men substituted. So importers of labour should be warned.

HORSE BREEDING IN THE NORTHERN TERRITORY.—It appears to us that this pursuit could be most profitably followed in the Territory, although about Port Darwin there is an absence of salsolaceous herbage; yet as the Territory extends south as far as the 26° latitude, doubtless, much land, especially about the Macdonnell Ranges, as we are told, does exist, suitable for the rearing of horses. Captain Douglas's report to the Adelaide Government as to the nature of the soil we give elsewhere. It should be highly encouraging to those disposed to undertake the breeding of horses for the Indian market. We must also reflect that here we are in lat. south 12° 28' 25" and long. east 130° 52' 40" on the extreme north-west coast of Australia, and that a horse breeding establishment in this locality would acclimatise the horses prior to their removal to India; and so, perhaps, ensure a longer life to the animal.

Of the twenty-eight horses shipped in the *Gothenburg*, from Adelaide, in August, 1873, five heavy cart horses, each of which cost £70, died within a week after landing; but near the Shackle Telegraph Station, 125 miles south from Port Darwin, the writer met three overland parties, *en route* from Queensland, with saddle and pack horses, which had travelled no less than 1200 or 1500 miles, and looked hardy, though they were not carrying much flesh; yet Mr. Warden Butfield, in our presence, purchased two of them, turned them out to graze, and expected after a month's rest they would come up fresh and in condition. Invariably in the Northern Territory are Queensland horses preferred to those of the southern colonies, as the climate where they have been reared is more consonant with that of the Territory. Moreover, another matter for serious consideration is that the passage to India would be not much more than half the distance from the southern colonies, and not only would the cost of the freight saved be an important reduction in the total cost of the horse, but the animal, not having undergone so long a voyage, would,

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of course, arrive in far better condition at its destination; and as before mentioned would have been already acclimatised to a warm latitude. True it is, that in the wet season, from December to April,—January and February are the two wettest months usually—the low-lying land is very often submerged by the heavy rain fall, yet we are informed by some of the overland telegraph construction party that the rain fall is never constant. Very heavy showers of one or two hours' duration may occur two or three times a day, when a marvellous quantity of rain does fall, after which the sun shines and the water drains away, if there be a fall; and the country has the advantage, that cattle can betake themselves to undulating ground, and retreat from the opening country elsewhere mentioned. If we are correct in our surmises as to the adaptability of the country for the breeding of horses, it ought to prove highly remunerative in the present state of the horse market; for, as a rule, the horses left in the colonies are mere weeds, the Indian market having withdrawn so many upstanding animals. Sir Hercules Robinson, Governor of New South Wales, is reported to have stated lately, that he saw but one pair of good carriage horses in the city of Melbourne—although we do not imagine he supposed Melbourne in horse-flesh to represent Victoria. Considering the number of fine stud horses which have been imported from England, besides the high-bred arabs, the present dearth of good horses shows that the demand far exceeds the supply. Mr. E. M. Curr, a no mean authority, writing in the *Argus*, seems to be of this opinion. He says—"I am not aware that any of the lately imported arabs have gone to the district most suitable to the production of saddle horses, which I will undertake to say will some day be found to be as regards this colony, its north-western portion, where on dry hot plains and sand hills a scanty salsolaceous vegetation prevails."

A reference to our description of Port Darwin harbour will show the great facilities existing there for the shipment of horses. The writer, in October, saw six race horses shipped by Mr. Hassel, per the *Loch Fern*, for Mauritius. They were taken down to a small bay near to "Peel's Well," two miles from Palmerston, near the Heads, and the vessel having been brought close in shore and left high and dry at low-water, the horses were walked close alongside the vessel, a barque of 400 tons, and were then hoisted into the hold in usual manner. The mode of landing horses at Port Darwin is to sling them into the water, then, when the sling is taken from under the belly of the horse, a man in a boat holds his head, and so makes him swim ashore. Bullocks are left to swim ashore, and an exciting sight it was to see the 175 animals land from the *Magnus*. These bullocks had been purchased, and shipped at Newcastle, for several mining companies, and they arrived in charge of an experienced cattle dealer from Adelaide. Five did not stand the voyage well, and so soon as they reached the shore were exhausted and fell down;

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but prior to departing this life a knife was inserted into the jugular, and the beasts afforded a fine repast, most unwonted, to us Port Darwinians. We hardly liked the idea of eating such meat but *necessitas non habet legem*, and so, after a somewhat careful scrutiny, we "made tracks" into the savory stew compounded by friend Edwards, who assured us that the butcher gave his word of honour that this particular bullock did actually bleed before becoming defunct, which satisfied our scruples; especially as the butcher used to say his motto was "cleanliness before godliness," not a bad motto, if acted upon, for southern cleavers. These half-drowned bullocks were the only fresh meat we tasted in the Northern Territory, but we suppose ere long cattle will be procurable at a less price than £25 to £30 per head, the rate ruling twelve months ago. The meat was retailed at one shilling and sixpence per pound.

It may prove of some interest to our Northern Territory readers to learn that there is in the Deccan, in India, a horse breeding establishment, owned by a company; the shareholders being wealthy individuals in England as well as in India; General Sir Hope Grant being the chairman of directors. Mr. A. H. Powell, the agent of the company, is now in Melbourne, and as he informs us, has already secured for an auxiliary establishment near Port Darwin, 200 square miles of country originally selected by Captain Douglas, the late Government Resident. So this looks like earnest business, and as though the Northern Territory may yet receive the notice of horse breeders. The most suitable horse to work in the Northern Territory is an active compactly built plough horse, like the Tasmanian Clydesdale. Such a horse was, when we were there, worth in Palmerston from £30 to £60; whereas weeds brought overland were sold at £6 or less.

PACK HORSES AND ALPINE PACKING.—The system of packing as practised at Woods Point, in the Australian Alps, might we think be here carried out to advantage. Presuming that a packer—as do some—own one or two hundred horses, he places every six in charge of a smart youth or stockrider; and upon each horse is a pack saddle, the Woods Point pattern is the approved, with a crupper and breast-plate; one pad is on either side of the horse, disconnected from the other excepting by the saddletree, so as not to gall the horse's back, and to allow the air to circulate freely; and the pad is protected from being chafed by two thin hard boards fixed thereon. The sides of the saddle are furnished with two hooks, by which depend 200 to 300 lbs. weight of goods: say two cases of geneva on each side; every horse is then turned adrift with a bell strapped round his neck, and so well broken are they that, without any bridle or headstall, each takes his place in the pack train in single file, the horse in the rear being followed by the driver on a less valuable animal. The trains meet and pass without touching; neither do they touch the trees which oftentimes are but fifteen feet apart. If even one bottle be broken the

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packer is responsible, and how is the poor dumb animal taught to be so chary of his master's property? The horses are all upstanding, say fifteen to sixteen hands high, similar to the horses Cobb and Co. used to affect, and are worth £20 or £25 each. The animal is thus broken to packing:—The pack saddle having been placed upon his back, a sack of flour in halves is affixed thereon. When he is turned out amongst the other pack horses he is as wild as the horse of Mazeppa. He bounds and raves in all directions, knocking against one and sending him over, rebounding from another, then against a tree; and he proceeds up one hill, or steep mountain, down the other side, across a creek, up and down another mountain; disconcerting the pack train all the way, thirty-eight miles, from Jamieson to Woods Point. Jamieson is 175 miles from Melbourne, where the drays used to deliver the goods to the packers to carry over the mountains, 6000 feet above sea-level. In one journey the horse is broken in to his future work. The writer resided in the Alpine district twelve months, and a novel sight it was, sometimes, to see fifty horses, each with a boiler plate across his back, so enveloping him that you could only see his head and his tail; the whole string cautiously threading their way each in the very foot-steps of his predecessor, delving every hole deeper.

CHAPTER IX.

GOLD FIELDS' AND LAND REGULATIONS OF THE NORTHERN TERRITORY.

A NEW code of mining regulations came into force in March, 1874. A miner's right costs ten shillings, and expires yearly on 1st December. An ordinary quartz claim is 200 yards along the reef and 250 yards across it. A prospecting quartz claim is 400 yards along the reef, by 500 yards across. After a claim is registered, within twelve months afterwards, the holder must apply for it under lease, and so pay the annual rental. Should he neglect or refuse to do so, any other person can apply for it under lease. Work on a claim must be commenced within forty-eight hours after taking possession, and two men can hold a claim.

GOLD FIELDS' REGULATIONS of the Northern Territory can be procured in Palmerston, of the Warden, or by sending a post office order for one shilling and sixpence to Messrs. Murray and Co., or to any other bookseller in Adelaide; and for the same price the land regulations of the Northern Territory can be procured. These latter comprehend as follows:—

PASTORAL REGULATIONS, under which a person can apply for not less than twenty-five, nor more than 300 square miles, on lease for twenty-five years, at a rental of sixpence per square mile per year, for

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first seven years, and ten shillings per square mile per year for remainder of the term, of country without the settled districts, north of the 26° of south latitude, and between the meridians of longitude 129 and 130 east.

PLANTATION REGULATIONS, under which a person can apply for not less than 320, and not more than 1280 acres of country land, at an annual rental of sixpence per acre.

MINERAL LEASES REGULATIONS, under which a person can apply for a license for twelve months, renewable, to search for minerals other than gold, on payment of one shilling per acre per annum; and for which a lease for fourteen years, renewable, may be granted, if applied for, at any time, at a rental of two shillings and sixpence per acre per annum.

WASTE LAND REGULATIONS, viz., survey before sale, also declare how and when lands are open for selection upon credit, or for cash at seven shillings and sixpence per acre. If on credit a ten years' lease may be granted at a rental of sixpence per acre per annum, and the lessee can, at any time, during the currency of the lease, pay seven shillings and sixpence per acre, and obtain his crown grant.

CASH PURCHASERS forthwith obtain their crown grant, as can any person who applies for a *special survey* of 10,000 acres, after he has paid for the survey, and also the seven shillings and sixpence per acre.

TOWN, TOWNSHIP, and SUBURBAN LANDS will be sold at auction for cash; the upset price having previously been notified in the *Gazette* published in Adelaide.

LEASES FOR SPECIAL PURPOSES, under which a person can apply for twenty-one years' lease of, say a water frontage, or another valuable site for a special purpose, which may be put up to auction after being gazetted at an upset annual rental of one pound per acre.

OCCUPATION LICENSES, under which a person engaged in mining pursuits, desirous of actually residing on a mineral lease, already granted, can apply for half an acre, on a seven years' lease, renewable from time to time; the annual rental being ten shillings, and the license transferable.

These regulations have been courteously furnished to us by the Honourable Minister of Justice and Education of South Australia; as well as the following notification that a bonus of £1000 will be awarded to the producer of the first 100 tons of sugar in the Northern Territory.

"BONUS FOR SUGAR MANUFACTURED FROM CANE GROWN IN THE
NORTHERN TERRITORY OF SOUTH AUSTRALIA.

"GOVERNMENT OFFICES, ADELAIDE, SOUTH AUSTRALIA,

"12th October, 1874.

"Notice is hereby given, that the Government of South Australia are prepared to give a bonus of £1000 for the first 100 tons of sugar grown and manufactured in the Northern Territory, South Australia.

"W. H. BUNDEY,

"Minister of Justice and Education."

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SQUATTING LEASES.—The Land Regulations are sufficiently liberal, and we think that an industrious and healthy young man, with ordinary pluck, disposed to settle in the north for a few years, who could muster 1000 or even 500 head of cattle, might in a few years become wealthy. He could start overland with them, and with three assistants; having arrived within lat. north of 26° south, and long. between the 129° and 138° east, and having succeeded in finding good land without the settled districts—but he must deviate from the telegraph line, and search for country—he could take up “not less than twenty-five nor more than 300 square miles in area, the land so applied for to be of a rectangular form, the length of which shall not exceed twice its breadth.”

Then it would be necessary at once to proceed to Palmerston and make application for a twenty-five years' lease to the commissioner, the application “containing a clear description of the run applied for.” The rental would be sixpence per square mile per year for seven years, and ten shillings per square mile—640 acres—for remainder of term. Within one year, or eighteen months, if the commissioner so permit, the run must be stocked, at rate of three head of great cattle, or ten head of sheep or goats for every square mile of the country so applied for. At the Cape we have seen flocks numbering thousands of goats, which have the same flavour as sheep; but Billy goats will not live in Palmerston, so the Nannies ought to be taken there in kid, when they may become acclimatised. The writer has visited Singapore, Batavia, and Hong Kong, where meat used to be unprocureable except at an exorbitant rate, such as four dollars for a minute Calcutta leg of mutton, bespoken before killed; and he thinks it might be encouraging to learn whether, if cattle or horses were bred to any extent near Port Darwin, a market could be found for them in eastern ports? At any rate, fat cattle can, within eight months, be moved to an unlimited colonial market. It appears now to be admitted as a fact that sheep thrive in hot latitudes, although, to preserve the wool from becoming hairy, frequent fresh blood must be imported. One hundred sheep belonging to the telegraph department appeared to thrive well at Yam Creek.

CHAPTER X.

NATIVES AND THEIR HABITS.

THE NATIVES of the Northern Territory are, as to physique, a far superior race to those of the southern parts of Australia. They are tall, well-formed, and many have well-developed and muscular legs and arms. Like most savages they are warlike and treacherous; thus rendering it absolutely necessary that every man in the Territory be armed with a revolver which he carries in a leather pouch attached

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to his belt. Although he may never have any use for it, yet he knows not the moment he may need it; as unseen, the blacks, though usually inoffensive, oftentimes are at hand ready to attack any defenceless party.

THE LARRAKEYAH TRIBE is not numerous, perhaps 300 in number; they are located about Palmerston and Southport, as far as the Adelaide and Escape Cliff eastward.

THE WOOLNAHS reside up and down the Adelaide River, and constantly make forays upon the Larrakeyahs, in order to steal their women, whom they covet as lubras.

Warlike as are the Woolnahs equally so are the Larrakeyahs, who are always prepared for the attacks of the former, and delight in going forth to meet them. As the Larrakeyahs are assured of our power to punish any treachery, they are friendly, and go in and out of Palmerston and Southport as they choose. Perhaps fear of the Woolnahs, a more powerful tribe numerically, causes them to be well behaved, otherwise they might be between two dangers. So they may be styled our advanced guard.

THE WAGGITES are located to the westward about Anson's Bay.

THE AGUAGWILLAHs are east south-east of Southport, and beyond them to Yam Creek are the WOOLWONGAHs.

Other tribes are beyond Yam Creek and Pine Creek; and further south we are told that all through the continent are separate tribes about every sixty miles, jeopardising the stations of the overland telegraph.

THE GWOOLINGAHs are eastward of the famous Union Reef, Pine Creek.

The natives are very expert in the use of the spear, which they can throw with unerring precision about 100 yards. It is a most formidable instrument, about twelve feet in length, with a long blade, and for some distance jagged like a set of shark's teeth. They use a "woomarra," a thong which, from the part held by the hand, traverses the spear to the butt end, which the thong is passed over and brought back tight to the hand. This, then, aids the propulsion with greater force and greater velocity. They also are very skilful in hurling the boomerang, which in the heavens will gyrate for a considerable distance, turn round at a certain angle—uncertain as the beholder may deem it—and will unerringly, and with great force strike the object at which they aim; a faculty enabling them to hunt more successfully. The girls and boys are betrothed as born, that is, a few boys being born to one tribe, and a few girls to another; these are betrothed to the former, and at puberty will be claimed as lubras by them, after they are declared eligible or "marked" young men. All the lubras are deficient of the two joints of the forefinger of the left hand, which, at three months old, is taken off by a ligature being daily tightened, till the joint drops off, when it is buried, as a native, Billy Muck, who spoke English fairly, informed us. The women are

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passionately fond of their children. They may carry them on their backs, the little urchins holding on to their mothers' necks, or they may carry them astride their shoulders, or on the hip; and it is amusing to observe the mother stoop down, and how naturally mere infants climb up and perch themselves across their mother's shoulders and hold on by the hair of their heads. Swamp fever and ague, and small pox, or a very similar pock, are very prevalent; many have lost an eye from disease, and some are covered with leprous-looking sores and boils. It is truly painful to notice the fearful sores on the eyes, necks, and other parts of the poor helpless children's bodies, oftentimes actually festering, and bitten by numerous flies, from which they stoically and uncomplainingly attempt to defend themselves with their little hands. The young men, to denote them as marriageable, have marks scored on each shoulder; and they likewise have such scores on various parts, on their backs, and on each buttock, as Billy Muck has. He—with Tom Powell and another—was, some years ago, taken by a gentleman to Adelaide on a visit; but was not much lionised there, as recently some murders had been committed by their countrymen. He is a fine made young man, and has a muscular walk. Across his manly breast he bears three wheals, the flesh being raised as thick as a rope; and so it ever continues, as it is caused by scarification, or cutting with glass, a track into which hot ashes are rubbed. Some have these wheals all round the body, and they are considered highly ornamental. The women also have their shoulders, arms, backs, and bosoms so scored, each gash one inch and a half, gaping perhaps half an inch. Some say these are tokens of affliction, or mourning for deceased relations, so many denoting one relation, and so many another. When the young men attain to a certain age, the tribe assembles in some retired spot for a grand corroboree, and with great festivity to "mark" them. They are said to undergo a most painful ordeal, somewhat similar to that the Queensland natives practise. It has been noticed in Port Darwin that when the youths return to society, they look sulky and abashed, and no woman dares to speak with, nor even look at them during the probationary period; but this passed they fly to claim their fiancées. Polygamy is allowed, the extent is measured by the man's circumstances.

THE LARRAKEYAHS and the WOOLNAHS do not practise circumcision, but all the other tribes practise it; the custom is purely traditional, rendering the youths afterwards eligible for marriage. They are afraid of an evil spirit they term "Browl;" and under the trees, up which they bury their dead, they will smooth down the grass in order to detect any visitation of "Browl" in their absence. Before retiring at night they may take a light and hunt about, calling out "Browl, Browl!" as if to bring him from hiding.

An eye witness (Mr. Edwards) has described to us the mode of burial of a friendly Larrakeyah, who came into camp about five years ago, and kindly gave information that the next day the

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Woolnahs intended to attack the settlement and to carry off the white women, as lubras—the wives of the government officers. On his return he was speared, as they suspected him of warning the whites, and thus frustrating a second Rape of the Sabines. His relatives, as is their custom, conveyed the body, not exactly to the family vault, but, if we have been correctly informed, each family has a sort of feudal tenure to a locality of the country claimed by the tribe. Here they bound him up in paper bark, a tree common in the locality, smoked the body, and then placed it securely amongst the branches of a tree eight or ten feet from the ground. They left him there all the wet season, till his flesh rotted. After a time they returned, made a fire under him, collected and carried away the bones. Some always thought they were partial to human flesh; others gave no credence to the assertion, but it is now known they are to some extent cannibals. It is said that when a child dies, the old people only, not the young, are accustomed to eat portions of the body, particular parts, as a sort of sacrifice offering, or following a traditional custom; but this will be involved in mystery until missionaries, if ever they do, visit this benighted race, far from unintellectual, and numbering tens of thousands perhaps. Certain it is that, some months ago, Dr. Millner, Acting Government Resident, who was drowned in the *Gothenburg*, heard that a child had been partially devoured, and he sent out a trooper who brought in the body so mutilated; and it is buried in rear of the doctor's quarters on the beach—he showed us the grave. As they do not cultivate the ground, leading a nomadic life, they grow nothing, and it is difficult to understand how they exist with no clothing nor covering of any description; and no shelter beyond that afforded by a sheet of bark perhaps placed against a log. They eat roots, grubs, and worms, the larvæ of ants, land crabs, found in the water holes, and fish; and they are partial to snakes, lizards, and iguanas. They readily raise fire by turning rapidly round between the palms of the two hands a stick sharpened to a point and inserted into a flat piece of hard wood, around which are dried leaves, which the sparks, caused by the friction of the wood, quickly ignite. We have also seen them go into the harbour and throw spears at the fish; and at night, with a fire stick, they will walk into the water to allure them by the light, then waddy them and so catch them. We fear this precarious style of living must often occasion them to take in a reef of the girdle they wear, the tightening of which collapsing the stomach, alleviates the pangs of hunger. As to dress, the men about the town usually wear, depending to the front part of the girdle only, a narrow kilt, about as wide as a rope; the women much the same. Severely plain as is this style, certainly no simplicity can exceed that of the sole attire, being a piece of wood six inches in length stuck through the cartilage of the nostrils, with perhaps a paper shirt collar round the neck, and a wide-awake hat on the

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head; for, as innocently adorned did we see, on landing, several youths, as well as three fine tall innocent maidens; these, however, had the stick through the nose without the shirt collar or hat; but next day, thanks to their white sisters just landed, they had red glazed calico aprons, and their charms were heightened by having rubbed over their shoulders and backs wood ashes; imparting to them a piebald appearance. The climate is so genial, colds are never caught, and really, clothes, by all, are looked upon as superfluous; for daily, respectable white children, boys and girls of a good age may, in many houses and verandahs, be seen running about as scantily attired as the blacks, with not so much as the stick through the nose to improve the appearance.

At seven o'clock every morning about 100 natives, chiefly women and children, leave their whirlies, a mile from Palmerston, and, cheerily chanting a distich or two, saunter into town. They visit the tents or huts of those who encourage them, and gladly perform any light work such as fetching water, sweeping the yard, picking over potatoes, and doing scullery work. They are rewarded with "Tom Tom," i.e. flour, sugar, and refuse tea; although all the garbage thrown away, such as putrid meat, rancid bacon, and rotten potatoes, are luxuries by no means despised by them. But, in Europe, do not thorough epicureans like high game? Some few speak English fairly, and like to show it off, and ask any passer by for a shilling. They seem to be very good-tempered, light-hearted, and chatter away most volubly, all at once, and without intermission during the time they are at work, and are said to be very honest, although up the country the men thieve anything lying about; but at half-past four they begin to watch the sun, and gradually about five all decamp, and, after dark, hold high, though innocent revel, over their decomposed gratuities. Very seldom do the young men work, they are supposed to be deterred by the old men, who approve of the young women not only performing the work for the township, but receiving the "Tom Tom" in payment, of which perhaps the old men obtain a greater share than they would from the youths. Men, women, and children all wear the stick through the nose, and the men have their hair oftentimes in plaits bedaubed with an unguent of red clay. The women wear their hair dishevelled, and they have one habit far from pleasing—sweetly innocent of all guile though they be. Daily may one dusky daughter of Eve be seen basking in the sun, prone on her face, whilst another "happy child of nature" will be carefully and minutely investigating her sister's poll, exactly as is the habit of the monkey; and woe be to any unlucky parasite should it not elude pursuit, for literally, it will become minced meat. We observed one girl manufacturing a damper by using her sister's back as a dough-board upon which to knead the musty flour. Many of the young girls just budding into womanhood are very pretty, are symmetrically formed, and walk majestically; their limbs never having been

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trammelled with fashionable habiliments, and in utter ignorance of the "Grecian Bend." They walk very erect, and with a fine "Roman fall" of the back.

Emma, the sable belle of Palmerston, who numbers fifteen summers, is much admired. She is always chattering in their musical language, laughing, and showing her fine white teeth; and she is not altogether deficient of accomplishments, for she can gracefully pick up a stick or any small article with the great and second toe of either foot, thus obviating and rendering unnecessary the great exertion of stooping. Unfortunately she has but one eye, but well does she know how to use the artillery of it. In a most winning way she says, "Charley, me like you very much, give me banana." To another she observes, "Harry! me like you so much, give me 'Tom Tom,'" and so on. When the friends and relations of Tom Powell and Billy Muck were apprised that the vessel by which they sailed from Adelaide had arrived, they prepared to receive them with much ceremony when they landed. Billy and Tom landed in the uniform of the Adelaide volunteers, which suits had been presented to them in Adelaide. The elders or head men being drawn up, with dignity, to receive them on the beach, they, holding down their heads and with measured footsteps, reverentially advanced to the chiefs, crying and most dismally howling; moreover, each had a piece of glass in his hand, with which he now and again cut a gash down his nose so as to make it bleed; as did the chiefs, to whom they were advancing so obsequiously, down their own noses. This touching and pathetic interview was witnessed by our informant (Mr. Roberts) who knew Billy Muck prior to his departure for Adelaide, and who said to him whilst he was crying, "Shut up, Billy Muck, you fool," but he only momentarily left off his lamentations to say, "Oh, it's all right," and on again he redoubled his efforts, dismally chanting, as a fervid expression of cheerful greeting.

Miranda, is the king or chief of the Port Darwin natives, and is much respected by them. His subjects appear to be most happy and contented. They are temperate; in fact, with exception of those who visited Adelaide, they know not the taste of alcoholic liquor, and refuse to taste it. The women, who help the housewives, are rigidly correct in their behaviour. During our sojourn a case of wife-beating occurred, whereupon the women generally, all in unison for hours, set up a howling noise, and an investigation was held in their encampment, but we whites were excluded from the court.

Half-caste children are not met with amongst the natives, their code of morality being very strict. In fact, should such a little *contre-temps* happen to mar the domestic felicity of a family, it is said that the inopportune advent of the little stranger would quickly furnish a feast to the tribe, which countenances no interlopers of a fairer complexion.

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Addicted as are the Northern Territory blacks to cannibalism, they, in that respect, are rather superior to those of Queensland, for a writer informs us that "various reports are current as to the existence amongst them of cannibal tribes, and it is a fact that, on the north and east coasts, portions of the dead bodies of the deceased are eaten by their friends as a token of regard. A missionary to some of the tribes in Queensland stated to the author (G. F. A.) of this quotation: 'At Moreton Bay, a lad having died, several men gathered round the body and removed the head and the thick outer skin, which was rolled upon a stake and dried over a slow fire. During this horrid ceremony the father and mother stood by, loudly weeping and lamenting, and the thighs were then roasted and eaten by the parents. The liver, heart, and entrails were divided amongst the warriors, who carried away portions on their spears; and the skin and bones, together with the skull, were rolled up, and carried about by the parents in their grass bags or wallets.' On the Coorong the skulls of the dead are taken away and used as drinking vessels by the relatives of the deceased." Some tribes perform funereal obsequies one way, others in various modes. Some bury up a tree, a custom we have stated the Port Darwin blacks practise. "Some, the Murray tribes, are buried in a sitting posture; the widows shave their heads, cover them with netting, and then plaster them with a thick coating of pipeclay, forming when dry a skull cap, or cast of the head, upwards of an inch in thickness, and weighing several pounds. These singular badges of mourning were found by Sir Thomas Mitchell, lying scattered about the burying-places. The natives of New South Wales burn their dead, the corpse being laid upon a pile of dry wood, three feet high, with the face towards the rising sun, and fishing apparatus and spears beside it." Singular are some of the rites initiating youths into the privileges of manhood. Some knock out the front tooth. Some cut gashes in their backs, arms, and bosoms, as we have noticed do the Port Darwin natives. "On the Murray they pluck out all the hair from their bodies, and anoint them copiously with red ochre and fat."

CHAPTER XI.

WONDERFUL ANT HILLS—WHITE ANTS—MOSQUITOES—FLIES, &C.

THE ANT HILLS which abound throughout a large portion of the Northern Territory may be regarded as wonderful proofs of the sagacity of the insect, and of its muscular power to raise and carry to such a height matter twelve times its own weight, as is asserted by entomologists. "That the ant preceded man as the founder of a commonwealth, as a miner, engineer, and architect, as a gardener, a keeper of cattle, and a cultivator of corn, is a fact well known to every naturalist; while it is equally well known that a knowledge of

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geometry must have been possessed by the bee anterior to the appearance of the human form upon the globe. As Sydney Smith has observed, 'It would take a senior wrangler at Cambridge ten hours a day for three years together to know enough mathematics for the calculation of those problems with which, not only every queen bee, but every undergraduate grub, is acquainted the moment it is born.'"

So stupendous in size are these ant hills that the mind of a person when gazing up at them almost becomes bewildered in contemplating or imagining the myriads of multitudes of insects which could have so substantially built them up, tiers of cones upon tiers of cones; and when built, for what purpose could they have been erected? They usually construct them around a sapling, or decayed tree, and by incessant subterranean toil, the clay being obtained underground, and built up from the inside, gradually rises a huge reddish mass, the colour of the earth, of an irregular form, with many angular and zigzag sides. Upon examination, it will be seen that it consists of cells, built after the fashion of the bees, about one inch in diameter, very irregularly shaped; and in these cells, or mixed with the clay with which the hill is reared, occasionally, are seeds and dry grass. We have broken off, by a violent blow, an angular edge of an ant hill, and on revisiting it, after a few days, although previously we had seen no ants, yet, after the breakage, we found, invariably, vast numbers repairing it in a most workmanlike manner. Some apparently as the hodmen, carrying the clay up to the builders, and these receiving it, carefully spreading and plastering it with a liquid, we presume, saliva, or evacuation of some sort. So angular are the sides of the ant hills that at first we supposed they were originally built of a circular form, and that the action of the rains had dissolved perpendicular fissures or intervals in the sides; but residents, many years in the Territory, believe the contrary. A few are small, and round, one or two feet high, and can with a strong kick be hurled over, and even in these are no ants. Some we have seen twenty-five feet in height, and six or eight feet in diameter; but usually they are from six to twelve feet high, and about four feet in diameter; and along a belt of country, extending perhaps one hundred miles, they may stand apart but fifty or 100 feet. To level these cunningly-devised rhomboidal structures, occasionally, would prove far more costly than clearing the ground of timber.

A traveller roaming amongst the largest, might, by small stretch of the imagination, fancy them to be monuments of antiquity. In fact, some persons suppose them to have been constructed thousands of years ago; at any rate, although the ants repair them, we met no person who had seen any in course of construction, or increasing in bulk; observers of similar, though smaller ant hills, in Northern Queensland have remarked to us that they have seen none inhabited. Some think they are storehouses of food for winter use of the ants,

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and that they are raised thus high to contain their colonies which seek protection from the floods in the wet season. In the dry season most of them appeared to be vacant of ants, if not actually abandoned. The ants we saw in a few were not large; they were transparent, and we think had pinkish heads and light purple bodies. Of such substance and tenacity are these ant hills, that at Yam Creek we have seen them sawn up into cubes with a cross-cut saw, with which a large kitchen chimney was built as effectively as with bricks; no ants appearing. Whither they betake themselves, and why they abandon such records of their sagacity, is a puzzle to be solved by naturalists; certainly hymenopterous insects display, if not sagacity, instinctive powers, of the highest order. In the centre of some, not all, of these hills we observed a large orifice running down perpendicularly, containing decayed looking matter, but dry; some regard this as the excretions of the builders.

In another locality, or maybe in the same as the above described, is the meridional ant hill, similarly built, and so named as it invariably points due north and south. Those we observed were three to six feet high, oftentimes much higher; the width at the base may be four feet, which tapers upwards on two sides to almost nothing at the summit, which presents a long wedge-like appearance, and which is in a direct line with all the others for miles in the same course, true north and south, as though surveyed, and there may be parallel lines, not far apart, of these meridional ant hills, which likewise have fissures down the sides.

WHITE ANTS.—Termites are only found within the tropics, and differ somewhat from the common brown or red ant. White ants belong to the neuropterous, and other ants to the hymenopterous order. There is a difference in the formation of the wings, the proboscis, and the eye; but both live in similar communities, and carry on the same operations. White ants when roasted are said to be very good. An African chief, who paid a visit to Dr. Livingstone, was offered some bread and jam, when the doctor said "Did you ever eat anything so good?" "Ah," said the chief, "you should try roast white ants." "The fecundity of the female of this species is truly wonderful. She and her partner are incarcerated in a cell by the neuters, and are there regularly supplied with food; and after impregnation her abdomen swells nearly 2000 times the rest of her body. As soon as she begins to lay eggs, they are conveyed away by the neuters to the prepared cells. It is said that she lays as many as 80,000 eggs in the course of twenty-four hours. Birds, beasts and fishes devour them, but their greatest enemy is the true ant." The nests of different species are differently constructed. The aphidæ, or plant lice, in immense numbers, suck the juices of plants. One aphid attacks cabbages and turnips, and another potatoes, and so on. They are usually green; have a proboscis which pierces the plant, and destroys or injures it. "Linnaeus quaintly styles the aphid the

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ants' milch cow, and should they find the creature and not his saccharine produce, they will, with their antennæ, pat the aphid on either side of the abdomen until the desired drop is yielded. The eggs of ants are not glued to a fixed place, they are dropped at random by the mother in her progress through the nest. Heat being indispensable, the eggs are placed carefully during the day near the surface of the ant hill, but sheltered from the direct influence of the sun. As night approaches the experienced insects, to whom the care of the precious ova is entrusted, remove the eggs to warmer quarters, to prevent the escape of the heat they naturally possess. Nor does the care of these tender nurses cease when the little ones come into life. At night they are carefully stowed away in the innermost chambers of the nest, the workers busily carrying their infants to the upper chambers. During their grubhood, the little creatures are fed by the nurses, or by the mother herself, with a liquid disgorged from the stomach. A community of ants, whatever the species may be, consists of males which always have four wings; of females, much larger in size than males, which only possess wings during the pairing season; and of a sort of barren females, which have been variously termed neuters, workers, or nurse ants, and which, so far as is known, have never been observed to have wings. Amongst the wingless workers may be seen a number of both males and females furnished with white glistening wings. They are not allowed to move without a guard of workers to prevent their leaving the boundaries, and if one straggles away unawares it is for the most part dragged back by the vigilant sentinels, three or four of whom may in such cases be seen hauling along a winged deserter by the wings and limbs. The actual pairing does not seem to take place within the ant hill; and we have observed scouts posted all around ready to discover and carry back to the colony as many fertile females as they could meet with. It is probable that, soon after pairing, the males die, as do the males of bees and other insects, for as the workers never bring back any of them they must perish, being entirely defenceless and destitute both of a sting and of mandibles to provide for their sustenance."

We have seen no wood but *jarrah* impervious to these pests, and they overrun everything. Pine wood is quickly demolished by them. They have attacked and are now busy riddling the door-sills and window-sills of the costly buildings of the British Australian Telegraph Company at Port Darwin. The telegraph poles have suffered considerably, but an extra iron pole is being erected between every two wooden poles, and ultimately it is intended to replace these latter by iron poles. The line seems to have been most faithfully built and quite equal to any colonial line. In October they had iron-poled as far as Yam Creek, 125 miles, and were pushing ahead. These iron poles are circular tubes, four or five inches in diameter, in two lengths, the lower is embedded in the

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ground, and has a double shoe or flange; the upper length is screwed into the lower, and when erected, the pole is twenty feet high, and will defy the ants' ravages.

How to DISTURB ANTS.—"The naturalist in Nicaragua" thus narrates a method:—"Don Francisco Velasquez informed me, in 1870, that he had powder which made the ants mad, so that they bit and destroyed each other. He gave me a little bit of it, and it proved to be corrosive sublimate. I made several trials of it, and found it most efficacious in turning a large column of the ants. A little of it sprinkled across one of their paths in dry weather has a most surprising effect. As soon as one of the ants touches the white powder, it commences to run about wildly, and to attack any other ant it comes across. In a couple of hours round balls of the ants will be found, all biting each other; and numerous individuals will be seen bitten completely in two, whilst others have lost some of their legs or antennæ. News of the commotion is carried to the formicarium, and huge fellows, measuring three-quarters of an inch in length, that only come out of the nest during a migration, or an attack on the nest or one of the working columns, are seen stalking down with a determined air, as if they would soon right matters. As soon, however, as they have touched the sublimate, all their stateliness leaves them; they rush about; their legs are seized hold of by some of the smaller ants already affected by the poison; and they themselves begin to bite, and in a short time become the centre of fresh balls of rabid ants. The sublimate can only be used effectively in dry weather. At Colon I found the Americans using coal tar, which they spread across their paths when any of them led to their gardens. I was also told that the Indians prevented them from ascending young trees by tying thick wisps of grass, with the sharp points downward, round the stems. The ants cannot pass through the wisp, and do not find out how to surmount it, getting confused amongst the numberless blades, all leading downwards. I mention these different plans of meeting and frustrating the attacks of the ants at some length, as they are one of the greatest scourges of tropical America, and it has been too readily supposed that their attacks cannot be warded off. I myself was enabled, by using some of the means mentioned above, to successfully cultivate trees and vegetables of which the ants were extremely fond. Notwithstanding that these ants are so common throughout tropical America, and have excited the attention of nearly every traveller, there still remains much doubt as to the use to which the leaves are put. Some naturalists have supposed that they use them directly as food; others that they roof their underground nests with them. I believe the real use they make of them is a manure, on which grows a minute species of fungus, on which they feed."

MOSQUITOES are not large, as is often supposed, but the bite is more venomous than in cooler latitudes. Every one carries a

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mosquito net, which is a long square bag, six and a half feet in length, three feet wide, and three feet high. The two ends and sides are made of cheese-cloth—mosquito netting is useless, the web being too large—the top and bottom of strong calico; through a pleat across the top of each end a thin stick runs, which distends the net, making it remain open like a square or oblong box, and these by thin cords are suspended to the two trees to which the hammock is lashed. A land hammock differs from a ship's hammock; it is of heavy canvas, about seven feet long by three and a half feet broad, with three eyelet holes for the lashings of cord at either end. Along one side of the bottom of the net is a long opening, four and a-half feet in length, with a flap one foot deep, through this opening the blankets are inserted and spread out on the bottom (of canvas,) which rests all along on the hammock sacking, and the sleeper on retiring to repose puts his head and back also through the opening, and having, on his back, drawn up his legs, closes the opening by underlapping the spare flap under his body. He then can defy all attempts of the insinuating insects to annoy him, and thus, in reality, suffers less from the mosquitoes than he usually does in Sydney or Melbourne, where mosquito nets, adorned with festoons and rosettes, are intended more for ornament than for use, and seldom are mosquito proof. The net—a Northern Territory invention—we have described, costs but twelve shillings at Shirley's, in Rundle-street, Adelaide, and the inventor ought to be regarded as a public benefactor. It moreover does not impede the current of air, as some suppose, and early in the morn equally protects the sleeper from the flies, as intolerable almost as the mosquitoes. It is really a boon to the wearied traveller, enabling him to sleep in comfort—temperature permitting—and would be invaluable were it in use in Queensland and up the Darling.

SAND FLY.—New chums are much punished by the sand flies, which are not inland, but on the seashore; they are very vicious—so small are they the eye cannot detect them, and cheese-cloth is the only fabric impervious to their visits. The bite raises a blister full of water; this, if it be broken by rubbing, becomes an ulcer, suppurates as often as it discharges, and all around it is a highly inflamed red ring. The writer has had as many as twenty deep wounds at one time on his legs and hands, but Holloway's ointment and podophyllin pills soon heal them. If a person can refrain from irritating the sores, no ulcer ensues.

MARCH FLY.—This fly is like a common fly, but as large as a blue-bottle, and bites worse than a mosquito.

COMMON FLY.—These are plentiful and annoy travellers greatly. A net—not gauze—over the hat is some protection, but if a person quickly inspirates in talking, whilst travelling, he will swallow many in course of a day, which is not agreeable if the insect has just feasted on carrion.

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BUNG FLY.—This cannot be detected. The bite is not painful, but it causes the eye-lid to become inflated, and as large as a pigeon's egg, totally closing and gumming up the eye. However, in one day it is better, and in three days the swelling subsides; there is no remedy for it. Within one month the writer had each eye bunged.

SANDY BLIGHT.—This is caused by the impalpable dust, heat and glare of the sun. The pain is excruciating.

CENTIPEDES.—Some of these are nine and twelve inches long, and very formidable looking.

TARANTULAS are numerous and large, perhaps the diameter of a teacup; the bodies and legs are covered with long hair.

ANT EATERS.—These resemble a lizard, and are, perhaps, twelve inches long. We were surprised to see them allowed to run up and down the walls and rafters without molestation, but they are harmless, and are prized as very useful domestic animals.

RATS.—The common Norway rat is rapidly on the increase in Palmerston.

MICE are very plentiful, whilst cats are very scarce.

SNAKES.—These are of all sizes; on the Adelaide Plains we saw one eight feet long and three inches thick; it had just been killed by another party. Frequently on the road did we see the trail of similar snakes crossing the road through the dust. Some are venomous.

PRICKLY HEAT is terribly annoying to new comers, but is said to be healthy. At certain seasons it appears. It is a sort of rash or pimple, and the itching sensation is unbearable.

MOLOCH HORRIDUS, OR CAPE YORK LIZARD, is a lizard about nine inches in length, which is common in Queensland and the Northern Territory. It is most curiously covered with spikes all over, to the tip of its nose and tail, all along the back, down the legs to the tip of its claws. Captain Grey, who discovered it, thus describes the animal:—"Body depressed, covered with irregular, unequal, small granular plates, each furnished with a more or less prominent central spine, and with a series of large conical convex acute spines; head and limbs covered with similar scales and spines. Head small, with very large spines over the eyebrows; tail, with irregular rings of very large acute spines; femoral and subanal pores none; teeth small, subequal; toes five, short, covered above and below with keeled scales; claws long, acute. The external appearance of this lizard is more ferocious than any that I know of; the horns of the head, and the numerous spines on the body, giving it a most formidable aspect. I have named this genus *Moloch* (*Horrid King*)."

PRAYING MANTIS.—This is a gigantic moth or grasshopper; they are, in Queensland, sometimes termed "preachers," as they squat down, as it were, on their haunches, and their long legs are posed before them, resembling a devout minister's attitude. They are found in New Guinea as well as Queensland and the Northern

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Territory. "The body is between seven and eight inches long, and exceeds in diameter that of an ordinary drawing pencil. It is of a brilliant green, the wings veined and shaped like leaves, and the legs covered with spiny processes like a thorny plant; the short appendages behind are leaf-like, and the front legs closely resemble compound unifoliate leaves. In a state of rest, and when settled, as all such imitative insects are accustomed to settle, on the plant which assimilates most closely to themselves in form and colour, it would require a wonderfully keen eye to discriminate between the animal and the vegetable," as they are said to imbibe their colour, green or brown, from the leaf they affect.

WALKING-STICK INSECT.—This "insect, nearly five inches long, appears to belong to the family of *Phasmida*, and its round and jointed body resembles a piece of bamboo which has been submitted to the action of fire; while its legs might be mistaken for twigs. When its wings—which are very small—are closed, the insect must be undistinguishable from the dead wood amidst which it finds its prey."

In the Northern Territory the ground, under the ground, the walls, the trees, the very air is at all times alive with insect life—which was not much studied till the seventeenth century; for at one time the whole number of insect species was said to be but 10,000, now it has been ascertained that in England alone a larger number exists. The Linnæan system of classification is founded "on the presence or absence of the wings, their number, consistence, surface, position in repose, and on the presence or absence of a sting;" and that the eleven orders, especially the coleoptera and lepidoptera, are well represented in the Territory, we all who have been tormented can vouch for. We heard one man facetiously remark that had Linnæus visited the Northern Territory he might perhaps have classified one hundred and eleven rather than eleven orders of insects. Unfortunately we are neither botanist nor entomologist; but North Australia, in both sciences, presents a very uncommon field for research. The wild flowers are abundant and beautiful; and the fire-flies, beetles, shining with a metallic brilliancy, radiant moths and butterflies at times shower a flood of light through the atmosphere; as one class retires to rest another takes its place by day or by night; causing an observing man to admire, and more and more to marvel at the inscrutable designs and wondrous works of the omniscient Creator.

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CHAPTER XII.

YAM CREEK AND PINE CREEK CLAIMS.

WE started to view the claims on Yam Creek which have been so lauded by "our own correspondents" of some newspapers. Our simple aim is to afford to our readers an idea of the position of the claims, and of the work done at the time of our visit. All along the range, on which the Yam Creek claims are taken up, here and there are outcrops of quartz. Commencing at the most northerly, "Horner's," we proceeded southwards, and were much surprised at the trifling amount of work which had been done. Some claims we found to be mere bare pieces of ground strewn over with quartz, upon which not a pick had been struck. Upon others, perhaps, 200 yards of trenching or "costeening," the Cornish term, had been done to a depth of two or three feet—as a man employed said—"to look for the supposed reef." How any correspondent, had he ever seen auriferous quartz, could minutely detail the grand prospects of the whole line, as one did, claim by claim, we cannot understand—as painful experience has proven to many of us that, in quartz mining, it by no means follows that, because one claim is rich, its neighbour is rich; even residing next door to a bank does not enrich a man; but, usually, the further you recede from the rich claim the more your chance of good luck diminishes. On some, however, vigorous operations were being carried on, although not much stone had been raised. Winn's shaft was down but twenty feet, and a drive was progressing, and some rich-looking stone was shown to us. The battery was being erected with expedition. Neat's shaft was only eighteen feet deep, and rich stone was exhibited to us. On the Kapunda Yam a splendid tunnel, 120 feet in length, five feet high, and four feet wide, had been driven into the range by Captain Ford, but without striking the lode; and another tunnel, on the other side, was progressing. On Westcott, the prospector's three bonus leases, each forty acres, Captain Newman, a most energetic manager, had commenced three shafts; in two of which the men at work said they continually saw, as did we occasionally, fine gold as they went down. The reef there had a burnt looking, jumbled up appearance. On this claim, work was proceeding with the greatest regularity, forty-five men, all willing, were employed; and were well fed and housed. The engine had arrived, and the battery was being erected on the Margaret Creek; a capital site, with never-failing water. The Princess Louise left off work after raising the nineteen boxes of quartz, sent to Adelaide by the *Gothenburg*. They had a camp near the Margaret, half a mile from the claim; work was to be resumed when the manager arrived. About

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300 yards south of Newman's is the camp of Captain Paul, who, prior to the setting in of the wet season, was exerting himself to send forward machinery for the amalgamated claims he represents. He had a large store and good accommodation for his men. Some golden stone from the Port Darwin and the Eldorado was shown to us at this camp. Captain Simson, of the *Priscilla*, was located about 200 yards from Captain Paul, and he was pushing forward his machinery. Two miles further south was Captain C. Hausen's camp, then Deacon's camp, and Dalton's next to it. Two miles beyond was the Thames Company, and next to it the Sandy Creek Company. On this ground several alluvial claims had been applied for, and some quartz gold, we saw, had there been found from about four feet deep in the ravines to sixteen feet in the flats. These claims are alongside the Margaret, on the road from Yam Creek to Pine Creek. At a distance of three miles from Sandy Creek, and seven from Yam Creek, is the Shackle Telegraph Station, 121 miles from Port Darwin, thirty north of Pine Creek, and 1852 from Adelaide. Here was located the warden; and two troopers, with silver lace down their blue trousers, tenanted the next tent to him. The warden, Mr. Butfield, hospitably entertained us. He was very active in registering claims, and seemed well liked; but as the government of the day would afford him no clerical assistance, he had daily to leave his tent and all his papers to the mercy of any person. The goldfields' regulations were ludicrously unworkable; the compilers, disdaining to consult Victorian regulations, had altogether omitted any labour clause—since, however, remedied—but every claim holder was compelled to hoist, and to keep hoisted, a flag with his name written upon it. Having pegged off 200 yards along the course of the reef, by 500 yards in width—in size, a small sheep station—he got registered by the warden, and floated away, with no intention of performing any work. On some lines of reef we saw many hundreds of yards of claims—in fact, miles—pegged and carefully numbered, all held in reserve for the anticipated demand by the Adelaide market; but very many were not even registered. As the officials interpreted the law, no miner's right could be held by any person residing out of the Territory; virtually disfranchising all the Adelaide men who had so largely invested their money—a very poor way of encouraging the industry of mining—neither did they recognise the right of women or minors to hold miners' rights; so different to Victorian legislation for miners.

THE FOUNTAIN HEAD COMPANY had sent in to the warden some rich looking stone, and had applied for a prospecting claim.

THE ROYAL REEF is eight miles on the telegraph line, east south-east from Howley crossing; the prospecting claim is Springbetts. Five claims are registered north and eleven south. Several favourite claims are on this line of reef, but no real work is proceeding.

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THE JOHN BULL REEF is five miles south-east from Howley crossing; the prospecting claim is Pollitt's; eighteen claims are registered north, and seventeen south.

THE BRITANNIA REEF is eight miles east by south from Howley crossing; the prospecting claim is McMinn's. Five claims are registered north, fifteen south, eight on the east, and two on the west.

THE COSMOPOLITAN REEF is seven miles south-east from the turn-off road, below Howley crossing; the prospecting claim is Cooper's. Thirteen claims are registered north, besides the Melbourne Port Darwin; twenty-seven south, and three on the west.

THE WOOLWONGAH REEF is ten miles east north-east from McMinn's, and seven miles north of the North Point claim, on the eastern branch of the Adelaide; the prospecting claim is that of the A. P. and Ophir Venture. Five claims are registered north, four south, and four west, but all these claims have been relinquished except the prospecting claim, which has been leased. A few tons, at fifty feet depth, yielded over two ounces per ton. Three or four smart young men had been working in earnest, and are said to have expended not less than £1400, their own money, upon this claim.

THE DOUGLAS REEF is four miles north-west from Howley crossing; the prospecting claim is the Douglas. Two claims are registered north, and twenty south.

On the BRITANNIA, MCMINN's claim was said to have excellent prospects, and golden stone was being raised. Here a fine body of young men, Mr. William McMinn, Mr. R. P. Mills, and others, chiefly members of most respectable families in Adelaide, were encamped, and systematically at work—a most unusual sight—and who cheerfully welcomed us. On the John Bull line but little work had been done, although many think highly of it.

As to the heavy losses which have been experienced by Adelaide shareholders in mining companies, considering the means by which such companies were formed, much surprise need not be felt. In the whole history of mining in the colonies never before were claims floated by telegraph, without even a plan.

Many of the companies had been thus initiated. The "floater" of Yam Creek rode over to the telegraph station at the Shackle, and, by wire, summoned to a parley the "floatee" in Adelaide, and then a colloquy ensued, something to this effect:—The floater offers a valuable claim, say No. 1 north of a prospecting claim, for £1000. The floatee consults his Adelaide friends, agrees to purchase the claim, pays the money into a bank to the credit of the Yam Creek floater, and the claim is transferred; the warden is telegraphed to know if all is in order, and then commence the preparations for launching it on the Adelaide market, at may be £5000 or £10,000 or more. Probably the Yam Creek

seller or floater had merely pegged out the ground, and hoisted the flag, and the claim might be a mile from a speck of gold, and could not be much less than 200 yards—the length of each claim. At this time about fifty men were on the reefs taking up and holding claims; but only about fourteen were pulling the wires, having the advantage of Adelaide co-operation. The rest of the community were astounded to observe the same men continually at the telegraph office, sending five and even twenty-five pound telegrams. We have been told that in one week Mr. Smith, the operator, sent away £1000 of telegrams from the Shackle. He was a very skilful operator, and could read the messages received by sound only. So secretly was the whole affair conducted, that even the warden could not understand the cause of the telegrams to him from Adelaide; and the storekeepers in Palmerston were unaware of what was being concocted by wire between Adelaide and the reefs.

Such was, for the most part, the origin of the thirty companies, which, in May, 1873, the *South Australian Register* stated had been registered, and whose shares ought then, at the current rate, to have been worth £471,159; upon which £89,225 had been paid to promoters and for preliminary expenses, and upon which only £115,100 remained to be called up as working capital; and thus did a correspondent warn the public:—"It will be seen that there are persons sufficiently insane to pay a premium of 200 per cent. for an interest in companies which have not as yet even a mining lease; in fact, merely because a couple of men have been dispatched in search of gold; while premiums ranging up to 1100 per cent. are being paid upon properties which, under the most favourable circumstances, must demand further and very considerable expenditure before any proof of either their value or worthlessness can be determined." Of course, under such untoward circumstances of developing them, the Northern Territory reefs need not be despised; for, compared to the number of men at work, abundance of gold is being actually won.

Mr. G. M. Newman has lately embodied in a pamphlet what he conceives to have been the causes of the numerous companies, projected to work the said reefs, becoming disheartened; and informs us that, since our departure, some really rich reefs have been discovered in the Pine Creek district—thirty miles south of Yam Creek; the configuration of the locality looking far more like an auriferous region than does Yam Creek. The Telegraph Company's crushings averaged one and a half ounces per ton; the Caledonian Company's, two and three-quarter ounces; the Lady Alice, four ounces. Thirty tons from the North Union yielded 197 ounces gold. Seven and a-half tons from the Bismarck yielded 609 ounces; and 170 tons from the refuse of the Union yielded 250 ounces; the first crushing from ten tons having yielded 800 ounces from a shaft

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eight feet square and fourteen feet deep. Some thousands of ounces of gold have been taken by a few individuals from a valley—Sandy Creek—from the surface to twenty feet deep; and nuggets from half an ounce to nineteen ounces have frequently been found.

CHAPTER XIII.

FROM PORT DARWIN OVERLAND TO PORT ESSINGTON—TREPANG BAY—MALAY PRAHUS—FEVER TREATMENT—THE FUTURE.

A MOST unfortunate circumstance has lately occurred; two young men, Messrs. Borrodaile and Pearmain, started from Port Darwin to reach Port Essington overland—over 200 miles distant—and have long been supposed to be lost, as they have not been heard of. A volunteer party of six men and one black boy, under the leadership of Mr. Lewis, an able bushman, started to search for them on 11th October last, from the Shackle station, and reached Port Essington on 1st November, but without having seen any trace of them. On the route they fell in with many parties of blacks, generally peaceable enough.

They travelled by Pine Creek, crossed the Mary, a good stream of water, about twenty-nine miles distant.

On the 15th they met some natives, who said they had never before seen white men, and that there was a large camp of natives lower down the creek. Tracks of buffaloes were visible.

On the 16th they cut the South Alligator. The river was here forty yards wide; and they saw plenty of geese and ducks in a lagoon. The river was deep, low banks, covered with tea-tree, the soil dark and rich. This had two branches—chains of waterholes in dry seasons, and each half a mile wide in the wet season.

On the 18th, about seventy-two miles, they had a good view of grassed land, with cabbage palms.

On the 19th the country was open forest, with sandstone and ironstone; very pretty, with the bluffs standing up from the table-land like castles.

On the 20th they passed a lake a mile long and 300 yards wide, covered with wild fowl; very pretty country.

On the 21st found the lake to be an overflow of the river which they thought to be the East Alligator. "Were stopped by cliffs three miles down. Afterwards went west for three miles to get round Lake McGrath, which is an overflow of the river. Then went east for four miles, cut the river, and followed it down. Found it impossible to go further. The river here is about forty yards wide, running through between two cliffs over 100 feet

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high, and quite perpendicular. Water apparently about fifty feet deep. Went with Dr. Guy on top of a high cliff, and could see down a gorge for a distance of twelve miles. Cannot make out what river this is. The scenery is splendid. Made back to McGrath's Lake and camped. Have seen the bones of several natives resting on shelves, and wrapped in paper bark, tied up with string; also, lots of trinkets, including bits of glass, bottles, &c. These things were in native bags. There were also native paintings on the rocks—pictures of fishes, and an animal like a camel. This lake is alive with game. Neddy, the black boy, shot six geese to-day in two shots."

On the 22nd.—At head of the East Alligator, saw buffalo tracks. Cannot cross the river; 100 yards wide, with mangroves on banks.

On the 23rd.—The salt water loses itself in bogs, and fresh water commences; it is twenty yards wide and twelve feet deep. They made a raft, and saw several natives gathering yams.

October 24.—Crossed the packs, and swam all the horses across the river. Rode over the plains, and found a good opening up the valley to the north-east. "On returning to camp saw five natives in the distance. When within 100 yards of them Mr. Lewis rode up alone, so as not to frighten them. At sixty yards they rushed forwards, with their spears in the act of throwing them. Mr. Lewis started his horse into a full gallop towards them, and they ran away; a few shots were fired after them, and no more was seen of them."

October 25.—Camped under some low broken tableland. A few natives were seen in the morning. They came over a creek, and a few presents were given to them. Afterwards three natives passed by; they merely moved out of the way of the travellers, and took no further notice at first. But afterwards they followed up the party, and were joined by some others on the edge of a large lagoon. The party went round the lagoon, but took no notice of them. Afterwards a great many natives followed, and appeared desirous of surrounding the white men, threatening them with their spears. Signs were made to them, and they put down their spears, and seemed quite friendly. They asked for tobacco, and some was given to them; they numbered about 130. They were at length told to go back, and pretended to do so, but they did not go far, and one of them was seen raising a spear to throw it. They then refused to go back, so Mr. Lewis ordered the men to gallop towards them; this was done and the natives disappeared.

October 27.—Came to a salt-water creek forty yards wide. Lots of buffalo tracks on the plains. Here saw a lot of friendly natives. They offered a cockatoo, and spoke a few words in English; some of them followed the party ten miles. Afterwards crossed a swamp at the foot of the range.

October 28.—"Saw more natives to-day—men, women, and children. They wanted the party to camp with them, and also to

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shoot a buffalo during the day. Saw as many as 300 buffaloes, mostly bulls. Named the plains that were crossed Scott's Plains."

October 29.—"Camped on the edge of a little cove in Mount Norris Bay. Place swarming with small brown flies, which sting like a wasp, and drive the horses nearly mad, causing them to gallop all over the country. Shot a buffalo this morning with a rifle, and took some of the meat; it was a young bull, and the meat was very good. Later in the day went to the top of a hill and got a good view of Mount Norris Bay."

October 30.—"Camped on the edge of a salt swamp coming from Van Diemen's Gulf. Left the last camp this morning on a westerly course, and, after having travelled five miles, saw some pony tracks. 'At about seven miles a buffalo came towards us, apparently thinking us to be a mob of buffaloes. The black boy, who was leading one of the pack-horses close behind, commenced to imitate the buffalo, and the beast made a charge at his horse, and just touched him on the rump. The horse made a frightful kick at the buffalo, and in doing so, unshipped the boy. The horse galloped away, and the boy mounted a tree, the buffalo standing sentry at the bottom. I shot at him, and at the second shot hit him. Open forest and pine, sandy and ironstone ridges."

October 31.—"Camped on a creek running north and south into Van Diemen's Gulf. In the morning passed through a splendid flat, or palm grove. The rest of the country was poor."

November 1.—PORT ESSINGTON. "Left camp this morning at half-past six, and after travelling a mile west came to a stony rise, from whence we could see the harbour of Port Essington. At nine o'clock arrived at the old settlement, but, as there was no water, sent the horses back about two miles to camp. Saw four Timor ponies, but they were very wild and galloped off."

TREPANG BAY. "During the stay of the party at Port Essington Mr. Robinson, of the *Northern Light*, pearling schooner, came to the camp (5th November.) He had been out with Jack Davis, the native chief, getting trepang, and as soon as it was made known that Lewis and party had arrived, Mr. Robinson and the natives came across to the camp from Trepang Bay. The party included Bob White and 'Flash Poll.' This black woman is sixty years of age, but she does not appear to be more than forty. Her hair is but just getting grey, and she is as active as a girl of fifteen. The natives are great smokers, and would give anything for tobacco. Among the men who came to the camp on the 5th is one who seems to be the terror of the country. His age is about twenty-seven years; he is six feet high, and well made. The natives of Port Essington say that he has killed five of his own countrymen at East Alligator. He has just been over to Trepang Bay to see if the Malay prahus were

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there. These natives trade with the Malays to a considerable extent, and many of them can speak both English and Malay. 'Flash Poll' can say the Lord's Prayer correctly. The Port Essington and East Alligator natives visit each other, and seem to be on good terms."

"English cattle, ponies, and buffaloes are to be met with on Coburg Peninsula. Mr. Lewis says—'I saw about thirty English cattle, and the same number of ponies; buffaloes are more plentiful.'

As to the non-mixing of buffaloes with European cows, it is said that those alluded to in the Northern Territory have not intermixed; yet a friend assures us that, many years ago, on Macquarie Fields Estate, near Sydney, belonging to Mr. John Hosking, he noticed a herd of over one hundred mule buffaloes, the teams of which at work were highly prized. The bull buffalo, the male progenitor, of enormous size, had been imported from India. These, therefore, as of more rapid progression, should be the beasts adapted to work and live in Northern Australia. The Indian buffalo has a hump—that of Timor has none.

HINTS FOR SELF-TREATMENT IN DISEASE AT THE NORTHERN TERRITORY: BY MR. R. H. EDMONDS (SOME TIME THERE RESIDENT.)

—FEVER.—"Upon the first symptoms a large dose of castor oil should be taken at going to bed, to be followed in the morning by five to eight grains of quinine, together with about ten to twenty drops of chlorodyne. The quinine, &c., to be repeated twice or thrice a day until the symptoms abate. If the fever be intermittent, the quinine must be taken before the cold fit appears. During the fever the patient must abstain from all stimulants, but plenty of cold water may be drunk. During the fever, and for some days after, exposure to the sun must be carefully avoided.

"DIARRHŒA.—In these cases the bowels should be cleared with castor oil, and then small doses of say twenty or thirty drops of chlorodyne, repeated at intervals of about three hours, until relief is obtained; avoid moving about, and *lie down* as much as possible; it must not be suddenly stopped by large doses. Very little fluid of any kind should be taken, and nothing more than lukewarm.

"DYSENTERY is distinguishable from diarrhœa by the presence of severe gripings, bearing down, flatulence, heat and thirst, and frequently sickness. Thoroughly clear out the bowels by large doses of castor oil every morning, after which six or eight grains of Dover's powder, or twenty-drop doses of chlorodyne every four, six, or eight hours, until the symptoms give way; or on alternate mornings castor oil, or fifteen or sixteen grains of rhubarb, and two or three of calomel. Should the pain be very severe, an injection, composed of about fifty drops of laudanum and half tumbler of arrowroot or warm water, with a little castor oil, will be found advantageous; a large syringe will answer the purpose. If the inflammation is great, leeches—found in many of the lagoons—

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should be applied to the lower part of the abdomen. No meat of any kind should be eaten, even for some days after the patient appears to have recovered; the best food is preparations of sago, rice, or arrowroot, or baked flour, and taken lukewarm, but the less fluid at a time the better. Absolute rest by lying down is indispensable to a good recovery.

"SUNSTROKE.—A strong glass of cold brandy and water, cold water applications to the back of the head and neck, and a dose or two of quinine (five or six grains.)"

AGUE.—We may remark that a combination of iron and quinine, as administered by Dr. Astles, we observed at once to cure ague of months' duration, irremovable by quinine alone.

SUNSTROKE.—In India, almost invariably soldiers have recovered after cold water has been unceasingly, for six or seven hours, poured over the back of the head.

AS TO THE FUTURE.—Mr. Newman makes the following highly pertinent suggestions:—"Make the main lines of road somewhat passable—say 200 miles south along the telegraph line; send survey parties to thoroughly blaze tracks from favourite points, say 100 miles distant east and west from the main line, and erect permanent land marks on high positions for the guidance of enterprising prospectors; offer substantial cash bonuses for the discovery of permanent and payable gold-fields on a scale in proportion to the value and extent of such payable discoveries; explore a few of the largest navigable rivers, emptying themselves into the sea, with a view of utilizing immense tracts of valuable land along the coast, and shortening the distance to many other gold-fields yet to be discovered. *Do this and other things* at a comparatively small national outlay, and the south would soon discover that the north is anything but a white elephant. I am informed by practical explorers that the coast line abounds in navigable bays, rivers, and harbours, and that there are immense tracts of country to the east and west of Port Darwin, especially on the Daly and Victoria Rivers, well suited for cotton, sugar, tobacco, and indigo planting. As regards climate, I cannot say, with Anthony Trollope, that our departed friends send from below for their blankets; still I confess at times it is very hot; and to listen to the accounts of rainfalls of former seasons, as described by old chums, it is enough to induce a man to build an ark for safety. Still, with all these disadvantages, I consider that, with proper nourishment and ordinary precaution, it is equal to any tropical climate in the world; and it has been, and will be again, one of the best countries on earth for a sober, industrious labouring man to quickly realise sufficient money to place him in a position above cringing to his fellow-man for leave to toil."

EAST INDIAN ARCHIPELAGO.

CHAPTER I.

OUR OWN EASTERN TOUR.

NORTH-WESTERLY of Melville Island is that truly magnificent region the East Indian or Malay Archipelago, consisting of an infinite number of islands and islets—a group extending 4000 miles in length from east to west, and 1300 miles in breadth from north to south—covered with lofty trees and perpetually rich vegetation to the very edge of the water. The largest are Borneo, New Guinea, Sumatra, Celebes, Java, Luzon (Manila,) and Mindanao; but there are many, in fact countless islands in the Archipelago, varying in size from 100 to 9000 square miles. Hereabout the rains are frequent and abundant. The season of an excessive downpour does not usually exceed three months. The thermometer in the shade seldom ranges above 85° or 90°, but seldom falls below 72°, about daybreak. Europeans experience a continual gentle perspiration, necessitating a free use of the pocket handkerchief over the face, and an entire change of white clothes at least twice daily, in order to be presentable in society, which is by no means lax in forms and ceremonies. In the east nearly all Europeans are polished and educated men—merchants and their clerks, besides, of course, military and civil service officers—menial work only being performed by the natives. The Chinese are accounted the smartest and most desirable servants, as they will eat anything, and with any one; whereas the Mahomedans object to certain food, and to certain castes, including Europeans, and did such infidels even touch their plates the same would be destroyed. They never eat with the left hand. Fortunately situated are these islands that yellow fever never occurs, and seldom does cholera; but some islands are more or less subject to fever and ague. Nevertheless, the white inhabitants, who never expose themselves to the sun, enjoy themselves, surrounded with every comfort; and as few persons in the colonies can imagine to be the case—unless they peruse the “Arabian Nights Entertainments,” which so enchantingly renders a faithful picture of ancient oriental magnificence.

In this part of the world, clothes are a superfluity, but all are decently attired, and so prodigal is nature of the fruits of the earth that three or four days per month cultivation of the soil will insure

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sustenance to the natives. During 1835, the reading of the thermometer—quoting from Mr. Earl's highly interesting work on the Eastern Seas, already mentioned—showed the temperature of the air at Singapore to have been as follows, and, so far as our experience teaches us, the same may indicate the nature of the climate within sixteen degrees north of the equator :—

TEMPERATURE OF SINGAPORE.

MONTHS.	GREATEST RANGE.			LEAST RANGE.			AVERAGE.			WINDS.	RAIN IN INCHES AND TENTHS.
	6 a.m.	3 p.m.	8 p.m.	6 a.m.	3 p.m.	8 p.m.	6 a.m.	3 p.m.	8 p.m.		
January....	80	86	82	76	77	76	78	86	83	NE	18.5
February..	80	88	84	75	77	80	79	85	82	NE	1.5
March.....	80	86	83	75	76	75	78	84	80	N, SE	10.8
April.....	82	86	84	78	79	80	80	84	82	ro. comp.	3.2
May.....	82	86	84	78	80	80	80	84	82	SE	5.
June.....	83	89	85	77	80	79	81	84	82	SE, SW	6.5
July.....	82	88	84	78	79	79	80	87	82	NE	4.6
August.....	82	86	84	75	76	77	79	82	81	NE	6.9
September	83	86	83	78	80	78	82	84	81	SE	3.6
October....	83	88	84	78	79	79	80	83	82	SW, SE	10.8
November	81	85	82	76	76	76	79	82	80	SW, NE	7.4
December.	80	84	82	73	76	75	77	80	79	NE	20.7

Here are the Moluccas, the far-famed spice islands, and here grow to the utmost perfection, the pepper vine, clove, cinnamon, nutmeg and mace—which is the outer skin of the nutmeg, and of a deep scarlet colour—which after transit through the straits of Malacca, and by the Red Sea, in boats, once commanded in Europe the price of their weight in gold; and, at that time, in event of a too abundant crop, the Dutch Government caused the destruction of the overplus.

This is the abode of the rice and coffee plants, sugar cane, arrowroot, sago, cotton, cocoa-nut, gutta percha, tobacco, flax (the tendrils of a huge leaf denuded of all succulent matter,) gambier (for tanning,) pearl shells, beche-de-mer, edible birds' nests, gold, silver, tin, lead, diamonds and other precious stones, antimony, the vegetable tallow plant, from which exudes a substance precisely similar to tallow, and is largely exported in huge hollow bamboo vessels, as also is gutta percha—produced in no other locality—which we have seen exported in huge round masses having the appearance of entrails. The immense trade in these articles, and an infinite number of others, affords employment to many thousands of persons, and to a large fleet of vessels, as well as to the innumerable boats, which convey the produce of various islands to Java and Singapore, to be transhipped to Europe and America.

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The following fruits attain the greatest perfection, and are of the most singular appearance (orchid-like,) and of a lovely bloom; not one of which is, in size, much less than a man's head—viz.: The bread fruit, pomegranate, shaddock, jack, durian, pineapple, custard-apple, soursopt, pomalaw, and cocoa-nut. The size of the fruit demonstrates the fertility of the soil, requiring, as the trees must, which bear them, such an uprise of sap; and they are all deliciously luscious. The pineapple is second only to the hot-house fruit, and, unlike that of the West Indies, the acidity of the juice does not discolour steel.

Equally profuse in the mineral kingdom as in the animal and vegetable, has nature been. We saw a stack of pure white tin ingots in a godown, at Singapore, which came from the Island of Banca. So extensive are the tin deposits that, in comparison therewith, the mines of Cornwall, as a merchant remarked to us, are insignificant. The antimony ore at Sarawak, the renowned Rajah Brooke, whom we met at Singapore, and who cordially invited us to visit him at Sarawak, described as apparently illimitable. Diamonds of the most brilliant water, and other precious stones, have from time immemorial been adorning the heads of the great and petty sultans. Stream gold has for centuries been here found, but not in solid nuggets as in Australia.

No region abounds so much in mountains. The loftiest are in Java and Sumatra, and vary from 10,000 to 15,000 feet high. Volcanic craters, within the memory of man, have altered the face of the land, and in some islands, are still in commotion. Nature seems to have put forth all her energies in creating life in its lustiest and most beautiful form.

Here is the habitat of the largest animals in the world—man alone being degenerate and of insignificant physique—the elephant, rhinoceros, lion, tiger, tapir, hog-deer; and deer, said to be found on the great islands, varying in size, smaller than a rabbit to that of an elk; as well as the ourang-outang, and the largest of apes. The birds don the most resplendent plumage, and the most singular form; parrots, loursis, cockatoos, and birds of paradise; whilst insects luminous and dazzling flit around. The narrow and temperate seas, the infinite number of shallow bays, the straits, and the extensive banks have a lavish supply of the most delicious fish, upon which, and sweet potatoes, the natives thrive, and are well nourished. This we particularly noticed when on a voyage—with one fellow passenger, Madam Ida Pfeiffer, the celebrated German lady traveller—from Cape Town to Singapore, we entered the Straits of Sunda. From Anjer Head a canoe full of Malays, or Papuans, boarded us, and in exchange for one dollar, they gave us a boat-load of pineapples, bananas, eggs, bantam fowls and cocoa-nuts; great luxuries after being forty days at sea.

Words we have not, to depict the grandeur of the scenery, which—just diverging from the apparently boundless Indian Ocean—at

once burst upon our view. Mountains, which, sometimes, precluded the taking of observations; rich green foliage, shelving down to the water's edge, from every height; countless islands presenting hourly and daily a complete natural panorama, more distinct and vivid than any artist has portrayed. The navigation is safe, although we got on a sandbank twice, and there waited the incoming tide. The natives who, from Sumatra, boarded us, more resembled Papuans than Malays. They were almost naked, and some had their teeth filed to a point, like sharks; others had them bevelled and made concave; all had them stained black.

The Malays have distributed themselves, in the course of centuries, along the shores—they never quit the coast—of these beautiful islands; which, though very sparsely occupied, were said, in 1852, to number 25,000,000 or 30,000,000. An entirely different race inhabits the mountains, who are termed Indians, and are far less civilised than the Malays, who are fairly clothed, and armed with a kriss (long dagger,) worn up the flowing sleeve. Mahomedan sultans or rajahs reign over most of the islands, and are despots, living in more or less state. Formerly, many of them countenanced or connived at piracy, but that has been put down—mainly by the instrumentality of Rajah Brooke—and now the numerous gun-boats of the Dutch and the Spaniards may be said to be the police of the Archipelago and controlled by them. All canoes require passes; one of which the canoemen exhibited to our captain ere he allowed them to come on board. It was issued by the Dutch Resident, on Anjer Point, at the entrance of the straits. As our captain had never before been in these seas, we anchored every evening—from Anjer Point to Singapore occupied sixteen days' sailing—when the boarding nets were at once placed around the bulwarks, the mast head was lighted, and guns and swords placed on the poop ready for any contingency; as we could not make out the cause of all the lights on the islands, and flitting about on the water.

Madam Pfeiffer, with a pair of pistols in her belt, and a dagger always in her bosom, with the eye of an eagle-hawk, yet a charming and accomplished woman of fifty—looked formidable as we patrolled the deck all night. By the way, she showed us a hole in her shoulder which she received in Brazil from a runaway slave, but she did not forget to give him a prod with her dagger. This she graphically described with an animated countenance and a flourish of her weapon. This circumstance is related in "*A Lady's Voyage Round the World.*" She was a plump little woman, well tanned, and kept a diary. She had been to Greenland, and to Iceland, and this was her second voyage round the world. If we caught a shark, a dolphin, flying-fish, or albatross, she was always present at the dissection with her taxidermical instruments analysing the internals. She informed us that, after rearing a family, she determined at all hazards, contrary to the wishes of her sons, in Vienna,

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to satisfy her longing for travel. The king of Bavaria, who encouraged the arts and sciences, as well as Lola Montes, assisted her with £100; and Lord Palmerston gave her letters to all English consuls and residents of India, as did other ministers to their consuls; and the German consuls of Singapore and other places, assisted her in every possible way, so great a favourite was she, and so fascinating were her manners. The day before we quitted Cape Town, on Table Mountain, she was taken to be a witch by two Hottentot women, who saw her carrying a snake at arm's length with a pair of pincers. They seized her by the arm and grinned at her, consigning her, doubtless, to her domicile in the "spirit world;" but she was rescued, and the women got sentenced by the "baron" to fourteen days' rice water, although madam begged that they be excused.

CHAPTER II.

OUR OWN EASTERN TOUR.—(*Continued.*)

BATAVIA, when under the sway of sultans, living in barbaric splendour, was denominated "Queen of the East," and is the capital of Java, a most beautiful island. It was, prior to 1819, the emporium of the Eastern Archipelago, which, after its capture from the Dutch, had been held for some years by England; and the island was making much progress under the government of Sir Stamford Raffles. It will be remembered that Napoleon, at the zenith of his success, had coerced almost the whole world to refuse to trade with England, and to join him in hostility against her; and, in the course of events, she, "the Queen of the Seas," captured Cape Town, Ceylon, and Java from the Dutch, and Manila from the Spaniards. It is to be noticed that Java is the richest island in the world next to Cuba; and Holland used, and may do so now, to draw a large revenue therefrom, as did the Spaniards from the Philippine Islands, also a magnificent territory. It is said that, had the colonial office opened and read Sir Stamford Raffles' despatches, they would have learned that they were in possession of an island which would have been a gem in the crown of England. Eventually, after the Restoration, the despatches were found in a pigeon-hole of the colonial office. At the conclusion of peace, Manila was restored to the Spaniards, Java to the Dutch, whilst England retained the Cape and Ceylon; thus allowing the Dutch and the Spaniards, as before, to retain possession, or rather control of the whole Archipelago, leaving England now destitute of an acre east of Singapore. But Sir Stamford Raffles, grieving at quitting Java, of whose vast riches he was aware, acted patriotically, and determined, contrary to his instructions, that England should obtain a footing in the locality.

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SINGAPORE is a small island, of much beauty and fertility, south of the Malay Peninsula, and the situation commands the entrance to the Straits of Malacca, through which pass the vessels from India to China, carrying on a most extensive trade; and it is otherwise centrally situated for commerce with the islands. It is but sixty miles in circumference, and is considered, with the exception of Penang, the healthiest part of British India. Neither epidemical nor endemical fevers prevail. So close is it—two miles only—to the mainland of Asia that tigers continually swim across from Johore on the Peninsula, and for years the daily average number of men they carried off was one per day, or 365 Chinese annually. They seized them in the jungle whilst cultivating gambier. Although traps and pitfalls are made for them, they cannot be exterminated. The government offer a handsome reward per head, and the skin is also of value.

Having selected Singapore for his purpose, Sir Stamford negotiated with the reigning Rajah of Johore for the cession of it to Britain. Then the number of the inhabitants was but trifling. In 1852, 75,000 was the number, of whom 5000 only were women; now the number exceeds 100,000. Having established a firm government in Singapore, where previously the chiefs were always at mortal strife, he declared it to be a free port, subject only to harbour and light-house dues, and thus he diverted almost the entire trade from Batavia to Singapore, which may be termed the store-house of the Archipelago. So grasping and so short-sighted has been the policy of Holland and Spain, that they have continued to levy import duties, ranging, if we remember correctly, as high as forty, fifty, and even seventy per cent.; and actually on all produce exported from Java and Manila, also a duty of three per cent. was levied. We observe that the Dutch lately have modified this policy slightly in the direction of free-trade.

Respecting import duties, two opinions may be entertained; but in total disregard that the West Indies and Mauritius produced a better quality of sugar, yet upon their staple article of export they levied a duty which, however, has not strangled the trade; still the policy is suicidal. On this beautiful little island of Singapore—which from its size, only grows nutmegs, pepper, and gambier to export, and these are superior even to those of Sumatra—are stored many hundreds of thousands of pounds worth of merchandise, all staple articles, which, as they cannot be produced in excess of demand, always have a marketable rate of but slight variation; and a ship here can freely unload one cargo, leave it for anticipated demand, and take in another cargo for any part of the world. In 1852 there might have been two or three hundred Europeans, merchants and their clerks, through whose instrumentality the vast trade was and is conducted. They all lived fraternally, and prided themselves on their hospitality; and a stranger arriving in China, Singapore, Batavia,

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or Manila, with good letters of introduction, would not be allowed to remain two days without being pressed to reside with some merchant—this hospitality in every eastern country we experienced—but, without letters, his presence is almost ignored, and for the first time in his life will he find that education, graceful manners, and money require an introduction; the cause is, that all these qualifications occasionally have been possessed by persons negotiating spurious bills successfully. The merchants are all gentlemen in position, attired in white jacket, vest, and trousers, patent leather boots and black necktie, with the everlasting black hat of the latest cut, and they never move fifty yards without an umbrella covered with a white material; and they live well, but moderately, as they all hope to get away whilst young enough to enjoy the fruits of the industry of their youth. A billiard table is in most of the houses, as in Hong Kong and Canton, where the same style prevails.

Now that the Torres Straits mail steamer route is *un fait accompli*, a person meditating a trip home would be charmed by, *en route*, visiting Batavia, Singapore, Manila, Hong Kong, on to San Francisco, and over the Sierra Nevada Mountains to the Atlantic. In no other country will a cosmopolitan see such a diversity of costume as in Singapore, where one elbows every nation—Germans, French, Spaniards, Portuguese, Italians, Chinese, Hindoos, Parsees (fire worshippers), in tall hat and long white robes; tall and stately Jews, with turban and scrupulously white robes, from Circassia. Never did we see Jews of such stature, and of such noble and venerable bearing, with long flowing beards—a bearing such as we conceive Paul to have borne when addressing Festus.

THE SOUTH-WEST MONSOON blows up the China Sea from 1st May to 31st October, and gradually slackening in intensity, it veers round; strengthening during the NORTH-EAST MONSOON, it blows down the China Sea from 1st November to 30th April. During January, February, and March the Chinese junks arrive in Singapore from China. Many of these are 500 and 1000 tons; each has a pair of eyes at the prow, as John thinks, "to make him see," and spreading their mat sails, they are quickly wafted down to Singapore. On their arrival, John clews up his sails, and builds a mat screen over the deck, as, ere he can return, he has to wait for the change of the monsoon. Many keen and eager traders offer to buy his "notions," but John is never in a hurry—imperturbably smokes, and listens, and sells at his leisure. They begin to depart in May, and take back with them raw cotton, cotton yarn, cotton goods, opium, trepang, copper, tin, rattans, edible birds' nests, deer sinews, sharks' fins, fish maws, &c.

THE "BUGIS" traders—the most industrious and enterprising carriers of the Archipelago—from Macassar, arrive at Singapore in October and November. They sail in small fleets, and are well armed, and can defend themselves from pirates. In all the stores in Singapore are piles of cannons, and every craft carries them. We have

said there are no import duties, but on certain goods consumed in the island, such as spirits and wines, a duty, fixed by government, is levied, and the permission to collect it is periodically farmed, or put up to auction. The Chinese who farms it pays a lump sum to government, and has his emissaries in all directions to detect smuggling. On a case of champagne being handed into our buggy from a store, an observing celestial quietly demanded to see the permit, which it is necessary to obtain prior to transit of the article. About 1852 the estimated number of Chinese who annually arrived in the junks was 10,000, who then became distributed amongst the islands, working for the planters. Although the most patient, industrious, and, for the most part, honest labourers, yet there are very many whom a Chinese saying mentions "as going about seeking dishonest gains;" and these are most expert as thieves. An officer of the Ceylon rifles informed us that, awakening one night, he was astonished to see a long bamboo hovering about near his watch pocket, over his head. It emanated from a "Heathen Chinese" on a ladder placed against the wall, and who, through the *jalousie* blinds, was manœuvring this fishing-rod, and who, like Autolycus, "was a snapper up of unconsidered trifles." In these countries glass is not used for windows, the air being allowed to enter in every direction through Venetian blinds. A lamp of coconut oil burns all night in bed-rooms. The Chinese shopkeepers and upper classes are richly attired, polished in manner; have indomitable patience, perseverance, and energy, and are most astute merchants. They are said to be honourable in their transactions with Europeans; as are the Japanese, more enlightened, if not more intelligent than the Chinese.

EUROPEAN SETTLEMENTS.—Mr. Earl states that the Dutch held, at the time he wrote, "seven settlements in the eastern part of the Archipelago. Macassar, on the south; and Menado, on the north-east end of Celebes; Ternate, in the Moluccas; Amboyna and Banda, on the Spice Islands; Bimah, on the north coast of Sumbawa; and Coepang, on the south end of Timor. The remainder of the Dutch settlements in the Archipelago are, the Island of Java, Palembang, Bencoolen, and Padang, in Sumatra; Banjar-Massin, Sambas, and Pontianak, in Borneo; Rhio, near Singapore; and Minto, on the Island of Banka. These with Delli, the Portuguese settlement on the north-east coast of Timor, Singapore, belonging to England, and the Spanish settlements on the Philippines, form the sum total of European establishments in the Archipelago." But the Dutch claim the fealty of we know not how many rajahs on different islands.

The Spaniards proudly hold the Philippine Islands, a beautiful tract of country. The principal is Luzon, the capital of which is Manila—not Manilla—enjoying more gaiety, musical parties and balls after the European fashion, than any place in the Archipelago. The population, in 1852, was about 4,000,000—Malays, Indians, and

Mulattoes; as well as 6000 white soldiers and government officers, and an army of Indian soldiers. They strictly follow the Catholic religion—the Jesuits having converted them over 300 years—and here are numerous stone churches and cathedrals; and priests, who live frugally, dress in blue serge cassock or toga, with shaven head. They are called *padrés*, and pass their lives in acts of benevolence. One in every village is revered and regarded as the arbitrator of all disputes, and they are true missionaries in every sense of the word. We have not space to attempt to describe the luxurious style of living in Batavia and Manila, both delightful places of residence; and we can only hint at the despotic sway of the Spanish Government over the Philippine Islands, where public worship of the Protestant religion was, and we suppose is still, prohibited; where no person can travel twenty miles without a passport to be viséd by every petty *alcalde* in every petty town; and, where a person on landing from any country must at once proceed to the custom-house, and give security for his behaviour; or remain on board the ship in which he arrived; where, in the holy week, until the booming of the cannon on Good Friday, announcing the raising of the Host at high mass in the cathedral—when all tear about as if mad—no person can publicly take any pleasure, use a boat, cart, or horse. After the raising of the Host, off goes one crowd to have a mock trial of Judas Iscariot, and hang him; and another crowd of thousands assembles to see a cock fight. These and kindred subjects merit a volume; and if these few pages, giving a mere hasty sketch of a region immediately adjoining Australia, impart to some a little knowledge of its vast resources, but little known to others than merchants, our purpose for digression will be served; especially as we believe that at no distant date intimate relations will exist between Australia and the Archipelago. Having enjoyed ourselves immensely in Singapore, Batavia, Hong Kong, and Canton, we took passage from Hong Kong, in a French vessel, to Manila, which we reached in seven days. After a residence of five months in this charming island, we sailed for Australia; and after a forty-five days' voyage south, amongst most picturesque islands—down the Molucca passage, we fancied we could detect the aroma from the blossoming spice plants—we emerged into the Arifura Sea; sailed along the west coast of Australia; round the Leuwin; and southing Tasmania, made for Sydney; which we reached in seventy-two days from Manila, to witness on landing the greatest excitement which then prevailed, consequent upon the arrival of lucky diggers from Victoria, laden with nuggets of gold, so soon to be frittered away.

CHAPTER III.

CONFIGURATION OF THE ARCHIPELAGO.

MR. WALLACE, the naturalist, who resided eight years amongst these islands, and travelled in that time 14,000 miles, we consider the best of modern authorities, and he divides the group into five, viz. :—

- "1. Indo-Malay Islands, viz.—Malay Peninsula, and Singapore, Java, Borneo and Sumatra.
- "2. Timor Group—Timor, Flores, Sumbawa, Lombok, with several smaller islands.
- "3. Celebes—Sulu Islands and Bonton.
- "4. Moluccas—Boeroe, Ceram, Batchin, Gilolo, Morty, Ternate, Makian, Kaiou, Amboyna, Banda, Goram, and Matabello.
- "5. Papuan Group—New Guinea, Arru Isles, Mysol, Salwatty, and others. The Key Islands are described with this group on account of the ethnology."

In comparing the area of Borneo with that of the British Isles, he says that the latter "might be set down in the former and be surrounded by a sea of forests." He states that New Guinea is probably larger than Borneo; that Sumatra is equal in extent to Great Britain; that Java, Luzon and Celebes are on an average as large as Jamaica; and that more than 100 islands in the Archipelago are as large as the Isle of Wight. Mr. Wallace notices that Borneo has never been subjected to earthquakes, although situated in the centre of the great curve of volcanoes. He also mentions that New Guinea has ever been quiescent; and that Celebes, for the most part, as well as the Malay Peninsula, are non-volcanic.

He believes that the Archipelago can be divided so as to lead to the conclusion that one-half was formerly united to Asia, and one-half to Australia; that a shallow sea connected Java, Sumatra, and Borneo with Asia; and another shallow sea united New Guinea and some of the adjacent islands with Australia—all these latter being characterised by the presence of marsupials. The Straits of Sunda, which separate Java from Sumatra, are but fifteen miles wide; and the sea dividing Java and Sumatra from each other and from Borneo seldom exceeds forty fathoms; whilst that dividing the Malay Peninsula from Borneo, and it from Siam, as far north as the Philippine Islands, and as far south as Bali, at the east end of Java, is seldom over 100 fathoms; but east of this line denoted on his chart the sea is "deep, over 100 fathoms." He draws one line running between Bali and Lombok, up Macassar Straits, turns north-east through the Celebes Sea into the Pacific Ocean; and this he designates as the "division of Indo-Malayan and Austro-Malayan regions," the sea west of the said line being "shallow, under 100 fathoms." Then he draws another line running

between Timor and Rotti Islands, south of Sandalwood Island, trending north through Sapi Straits between Flores and Sumbawa, up the Molucca passage, converging to the other line into the Pacific. He marks this line as the division between Malayan and Polynesian races—the Malayan, of course, to the west. East of this line, nearer to Australia and New Guinea, he draws a line, marking the limit of the shallow sea on the east.

All round the north-west coast of Australia, nearly as far as Timor, including the Gulf of Carpentaria, and along the south of New Guinea, as far as Cape York, and round it, he shades, as being “shallow, under a hundred fathoms.” He believes that all the peoples of the islands can be grouped with the Malays or Papuans. The former being a superior race, and having maritime enterprise, have sailed along and settled on the coast of the islands. The Asiatic races have a continental origin, and include the Malays; whilst the Pacific races all east of the former “are derived, not from any existing continent, but from lands which now exist, or have recently existed in the Pacific Ocean.”

He dwells upon the fact that, as the large animals could not have gone over from one island to another—as the same species, such as the rhinoceros of Sumatra, and the elephant and tapir of Borneo and Sumatra, the wild cattle of Borneo, and the kind peculiar to Java, inhabit some part of southern Asia—so with small mammals, birds, and insects—these islands were once a portion of Asia. “The productions of Java, Sumatra, and Borneo resemble those of Asia as much as can be expected. The Philippine Islands agree in many respects with Asia, but appear to have been separated at an earlier date.” On the other hand, from Bali to Lombok, immediately on passing over, a great contrast is at once presented. In Lombok and the eastern islands are cockatoos and birds altogether unknown in Bali and any island further west. All the islands, from Lombok and Celebes eastward, resemble as closely to Australia and New Guinea as the western islands do to Asia.

Australia has no monkeys, tigers, deer, nor large animals of any kind; but has only marsupials—the kangaroo, wombat, opossum—and the duck-billed platypus. It is equally singular in birds and parrots. He says, “I am informed that there are a few cockatoos west of Bali, at one spot; showing that the intermingling of the productions of these islands is now going on. The strait is here but fifteen miles wide, so that in two hours we pass from one great division of the earth to another, differing as essentially in all their animal life, as Europe does from America. If we travel from Java to Borneo, Celebes, or the Moluccas, the difference is still more striking. In the first, the forests abound in monkeys of many kinds, in wild cats, deer, civets, otters, and squirrels of many kinds. In the latter islands, none of these occur; but the prehensile cuscus is almost the only terrestrial marsupial seen. Wild pigs are

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found in all the islands, and deer (which have probably been recently introduced) in Celebes, and the Moluccas. The birds abundant in the western islands, are absolutely unknown in the eastern, and the naturalist feels he has passed into another region without ever being out of sight of land." He infers that the islands east of Java and Borneo did once form part of the Australian continent; and that the Arru Isles, Nigrol, Waigion, and Jobie Islands, were united to New Guinea by a shallow sea; as the mammalia and birds more closely resemble those of New Guinea than the Moluccas, immediately north-west of New Guinea; "in fact, the 100 fathom line round New Guinea marks out accurately the range of the true paradise bird. Borneo resembles New Guinea in freedom from volcanoes, geological structure, uniformity of climate, and forest vegetation. The Moluccas resemble the Philippines in volcanic structure, fertility, luxuriant forests, and frequent earthquakes. Bali has a climate almost as dry, and soil almost as arid as Timor; yet a great contrast exists in these groups. In the animal productions Borneo and New Guinea, alike physically, are zoologically wide as the poles; while Australia, with its dry winds, its open plains, its stony deserts, and its temperate clime, yet produces birds and quadrupeds, which are closely related to those in the hot, damp, luxuriant forests, which everywhere clothe the plains and mountains of New Guinea."

Mr. Wallace, on his chart, indicates the volcanic region by a red curved line traced all through Sumatra, Java, Bali, Lombok, Sumbawa, Flores, Timor; across north-east to Banda, Ceram, and Gilolo; north through Mindanao and Luzon (Manila;) also, New Britain, a little north-east of New Guinea. Borneo inside of the said circle, and New Guinea outside of it, are non-volcanic.

With reference to this part of the globe, "the magnificent fragments of a former world scattered over the mighty ocean," Malte Brun says:—"Nature has given this part of the world a very prominent and characteristic physiognomy. No portion of the surface of the globe has more numerous inequalities, and in none, except America, have the chains of mountains so striking a polarity—so marked a direction from north to south; at the same time, these chains generally present, about the middle, a great bend from west to east. The best marked among them is that formed by the Marianne Islands; the Carolines and the Mulgraves, are probably connected by means of St. Augustine's Islands, and some other links, with the Archipelago of the Navigators, or that of the Friendly Islands. Their general direction is from north-west to south-east; even among the Carolines, where the Polynesian chain turns due east, the particular links lie north and south. Another great chain makes its appearance in the Island of Luzon, the largest of the Philippines, latitude north 16°, which passes on the Island of Palawan, latitude 10° north, and longitude 119° east, into Borneo, latitude 0°, and longitude east 114°; the direction is from north-

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east to south-west. It bounds on one side the basin of the China Sea. More to the east this chain is converted into a number of smaller ones, united in groups, varying in their structure. The chains of Celebes, latitude, south, 4° , and longitude, east, 121° , and Gilolo, latitude, north, $1^{\circ} 10'$, and longitude, east, $127^{\circ} 43'$, are well marked; but a larger and higher one crosses New Guinea, where some of its elevations are covered with perpetual snow. In New South Wales the long line of the Blue Mountains extends to Van Diemen's Land, terminating in South Cape and Cape Pillar—immense masses of basalt, which give a magnificent idea of this cordillera of central Oceanica. The fourth great chain takes its commencement at the Andaman and Nicobar Islands, and then gives rise to the Islands of Sumatra, Java, Timor, and others. It runs in the form of a bow from north-west to south-east, and then due east; but it probably passes by Cape Diemen, where it can have no other direction than north and south." The Andaman is in latitude, north, 12° , and longitude, east, 93° ; the Nicobar, in latitude, north, 8° , and longitude, east, 93° ; Sumatra cuts the 102nd meridian of longitude, east; Java, the 110th; and Timor, the 125th; and lie within ten degrees of south latitude. He continues: "All the archipelagoes of eastern Oceanica lie north and south. New Zealand, New Caledonia, and the New Hebrides, form well-marked chains. That of Solomon's Isles, bending from south-east to north-west, is continued in New Ireland and New Hanover. It often happens that the small chains are individually terminated by a larger island than the others of which they are composed. Thus the islands of Otaheite (latitude, south, $17^{\circ} 45'$, and longitude, west, $145^{\circ} 30'$;) Owhyhee (latitude, south, $19^{\circ} 30'$, and longitude, west, $155^{\circ} 30'$;) and Terra de'l Espiritu Santo (in latitude, south, 15° , and longitude, east, $166^{\circ} 50'$;) are found at the extremity of a line of smaller islands. These analyses might have facilitated the progress of discovery, and especially contributed to make each archipelago more easily recognised. By carefully marking the direction of a chain, navigators might have become almost certain of discovering new islands, and even still they ought to attend to a principle which may put them on their guard against immense reefs, which, in all probability, follow the direction of chains at the bottom of the ocean."

CHAPTER IV.

STRAITS—SEAS—SUMATRA—MALAY PENINSULA—JAVA—STRAITS'
SETTLEMENTS—TIMORIAN CHAIN.

STRAITS OF MALACCA separate Sumatra from the Malay peninsula; the former on the west, the latter on the east. These straits, commanding the highway into the Archipelago, commence at the northernmost extremity of the Island of Ceylon. At the south-

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eastern entrance is Singapore, whence the steamers from China, proceeding westward, touch at Pulo Penang and make for Point de Galle at the western entrance of the Bay of Bengal.

CEYLON.—The possession of this island has ever been considered of importance to England as a *point-d'appui*, or secure and invulnerable base of operations in the event of any reverse to our arms in India. In the time of the Romans it was a great emporium of trade.

The Arabs invaded the country, an island 27,000 square miles in extent, abounding in all the products of India and the Indian Islands. The Portuguese having arrived under Almeida, in 1505, for a yearly tribute of cinnamon, consented to assist the Ceylonese against their invaders; but eventually they captured the country themselves. After one hundred years, the Dutch made their appearance in 1603, and they, in their turn, agreed to assist the natives against the Portuguese, whom, after a struggle for fifty years, in 1656, the Dutch entirely mastered. Eventually the country became, as it now is, a British possession by right of conquest.

STRAITS OF SUNDA, fifteen miles wide, separate Java on the east from Sumatra on the west, Java Head being at the entrance; thence round the north-west coast lies Batavia.

STRAITS OF BANCA, seven miles in width, separate the island of Sumatra on the west from Banca on the east.

STRAITS OF GASPAR separate Banca on the west from Billiton on the east.

STRAITS OF BALI, at eastern extremity of Java, separate it from Bali.

STRAITS OF LOMBOK, fifteen miles in width, separate Lombok from Bali.

STRAITS OF ALLAS separate Lombok from Sumbawa.

STRAITS OF MACASSAR separate Borneo on the west from Celebes on the east.

MOLUCCA PASSAGE separates Celebes, on the west, from the Molucca Islands, eastward, famed as the Spice Islands; the *habitat* of the "balmy spices from the east."

PITTS' PASSAGE is south of the Moluccas and north of Ceram, Bouru, and Amboyna.

GILLOLO PASSAGE is between the Moluccas and the islands Waigiou and Mysol, north-west of, and immediately contiguous to New Guinea.

CHINA SEA.—This vast and impetuous sea separates Borneo and the Philippine Islands on the east from the Gulf of Siam, Cambodia and China—the Asiatic coast—on the west. As previously mentioned during six months in the year, from 1st May to 31st October, the south-west monsoon blows up the China Sea; and, during the other six months, the north-east blows down it.

JAVA SEA separates Java on the south from Borneo on the north. During six months of the year, from 1st May to 31st October, the

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south-east monsoon prevails in this sea; and during the other six months, the north-west—so that during the prevalence of the south-west monsoon in the China Sea, the south-east prevails in the Java Sea; the north-west in the Java Sea, whilst it is north-east in the China Sea. Between the tropics, the north-east trades prevail north of the line; and the south-east trades, south of the line, at all times of the year. About the change of the monsoons, typhoons occur in the China Sea and Java Sea; none occur during the months of December, January, February, March, April, and May. About 1850, a nautical magazine gave the authority of Captains Piddington, Reid, Thom, and “United States Journal,” of 1843, that the number of cyclones in the China Sea, Bay of Bengal, Southern Indian Ocean, and West Indies, thus happened:—

TABLE OF AVERAGE NUMBER OF CYCLONES IN
DIFFERENT MONTHS.

IN NUMBER OF YEARS ASCERTAINED.		JAN.	FEB.	MARCH.	APRIL.	MAY.	JUNE.	JULY.	AUGUST.	SEPT.	OCT.	NOV.	DEC.
64	China Sea ... ..	...	...	...	...	...	2	5	5	18	10	6	...
46	Bay of Bengal	1	...	1	1	7	3	...	1	...	7	6	3
39	Southern Indian Ocean	9	13	10	8	4	...	...	...	1	1	4	3
123	West Indies ... ..	...	...	...	...	...	1	2	13	10	7	...	...
59	West Indies ... ..	...	...	...	...	...	1	5	13	13	9	...	...

The above may prove interesting to those having occasion to traverse those seas at certain seasons; or to shippers of horses from Australia to India.

Celebes Sea is north of Celebes, east of Borneo, and south of Mindanao.

Sulu Sea—or Mindoro Sea—is north-east of Borneo, west of Mindanao, and south of the Philippine Islands.

SUMATRA.

SUMATRA, between latitude, north, 5° 40', and latitude, south, 5° 3', is an extensive, beautiful, highly fertile, and mountainous island. It is 1050 miles in length, from north to south, and 150 to 200 miles in breadth, and Crawford estimates it to contain 130,000 square miles. The Dutch Government is the dominant power hereon, but it is also under the rule of various Mahomedan sultans.

PALEMBANG is a kingdom among the native states holding the highest rank, and is bounded on the north and east by the Straits of Banca, on the south by the Lampong country, on the west and south-

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west by the ranges of mountains which separate the latter state from Bencoolen and its dependencies; and on the north-west its limits adjoin the territories of the sultan of Jambee. Bell says:—"The principal river is the Moosee, upon which Palembang is situated; and it runs from south-west to north-east, throughout the country, receiving the accumulated waters of all the other rivers. In it are numerous alligators, so daring that they carry off the paddlers from the canoes. The town is three miles long on both sides of the Soensang branch, which is here 1200 feet in breadth.

TRADE.—The foreign trade from the town is with Java, Malacca, Banca, Penang, Lingen, Rhio, and the east coast of Borneo. The imports are woollen cloth, chintzes, coloured cottons, Bengal and Madras piece goods, copper, cutlery, tea, drugs, silks, nankeens, earthenware, and salt. The exports are pepper, cotton, wax, dragons' blood, benzoin, ivory, gold dust, and edible birds' nests.

NATIVE GOVERNMENT.—The jurisdiction of the port is invested in a chief appointed by the sultan; and all the *pangerangs* hold their seignorial rights from him. The headmen of the villages are elected by the inhabitants, their choice being ratified by the sultan. Before execution, every sentence must be submitted to the sultan. About 1837, Bell thinks there were 75,000 persons in the provinces, and 25,000 in the town of Palembang. In the interior is a harmless race—called Orang Kutri—of wild men, who refuse all intercourse with the surrounding population.

The palace of the sultan is a magnificent structure of brick, surrounded by a wall. The houses of the principal chiefs are comfortable. Owing to the aquatic inclinations of the inhabitants, only boat communication exists between the houses. Mr. Earl states that the Dutch have a settlement at Palembang.

MENANGKABOO is a kingdom in the centre of the island. The inhabitants are all Mahomedans, and the sultan is regarded as a sort of Mahomedan pontiff, and possesses unbounded influence.

ACHEEN is a kingdom which forms the north-west extremity of the island; and this is the territory against which the Dutch are now, and have been for some time past, waging a fierce war. The Acheenese are darker coloured and stouter than the other Sumatrans, and have more sagacity and industry. They profess Mahomedanism. The capital, Acheen, is situated upon a river two miles from its mouth, and carries on a considerable trade.

BENCOOLEN is an ancient Dutch colony on the west coast. Here the English established themselves in 1685, after their expulsion from Batavia, and built Fort York in 1690, and Fort Marlborough in 1719. It then passed to the Dutch, from whom it was retaken by the English, who restored it in exchange for the Dutch possessions in Malacca.

DELI is situated on the north-east coast, in the Straits of Malacca. This is a Dutch residency, and Mrs. Yelverton, who lately visited the

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place, says that so luxuriantly thrives the tobacco plant, that Danish, Swiss, Polish, German, and French planters have succeeded well. The sultan has encouraged settlement, and has made large grants of land of several thousand acres, for terms of fifty to seventy years. There are not more than twenty planters; and one company, in a few years, has shipped 3,000,000 pounds of tobacco. She observes:—"I would very much rather take shares in a tobacco plantation than in a gold mine." Respecting the singularity of the mangrove tree, she notices that it puts out millions of roots, dividing rivers into mere streams. "The monkeys were gambolling from bough to bough, and seemed to be cracking jokes at us as we passed. One tiny fellow, who ventured to the very end of a mere twig, the better to see and sauce us, was seized by his mother by the back of his neck, and soundly shaken and rated for his impudence."

PADANG is a Dutch settlement on the south-west coast. Bell, from whom we are continually culling, says:—"Sumatra is surpassed by few in the beautiful indulgences of nature. A chain of mountains runs through its whole extent, the ranges, in many parts, being double and treble. Yet their altitude is not sufficient to occasion their being covered with snow during any part of the year. The highest point in the central chain is Mount Ophir, which rises to the height of 13,424 feet above the level of the sea." The highland scenery of Sumatra is very grand, and expressly to view the same, tourists proceed to Padang by the Dutch steamers periodically sailing from Batavia, as elsewhere we notice.

PRODUCTIONS.—The island is highly cultivated. "Among the productions may be mentioned the camphor-tree, which naturally produces camphor in a concrete state; indigo, Brazil-wood, pepper, benzoin, coffee, cassia, and cotton. The nutmeg and clove have been introduced with great success at Bencoolen. The silk-cotton is among the most remarkable of the Sumatran vegetables, the branches growing out perfectly straight and horizontal, and being always three, forming equal angles at the same height. The diminutive shoots likewise grow flat, and the several gradations of branches observe the same regularity to the top. In the forests are found the cabbage-tree, ebony, pine, sandal-wood, the aloe, the teak, the manchineel, iron-wood, and the banyan tree. Gold is procured in the central parts of the island. It is asserted that from 10,000 to 12,000 ounces of this metal have been annually received at Padang alone. Tin is a very considerable article of commerce. Iron ore is procured, but not in large quantities. Sulphur and yellow arsenic are articles of traffic."

SUMATRANS.—Their complexion is yellow; the females of the upper classes are fairer. The women flatten the noses and compress the skulls of the children newly born. Both sexes file their teeth, some into points like equilateral triangles. "The great men set their teeth in gold by casing with a plate of metal under the row."

MALAY PENINSULA.

MALACCA, the golden *Chersonesus*, as it has been termed, forms a long peninsula at the southern extremity of Asia. It is 775 miles in length, and about 125 in width, and extends from latitude, north, $1^{\circ} 22'$ to $8^{\circ} 27'$. Johore is the southern boundary of the territory, whence it runs forty miles along the eastern shore of the Straits of Malacca by a breadth inland of thirty miles, and contains 800 square miles. It is connected on the north with the British province of Tenasserim by the Isthmus of Kraw, ninety-five miles in width. On the north-west is the Gulf of Martaban, skirting the Birman empire; on the north-east is the Gulf of Siam, laving the southern shores of Siam and Cambodia; and north of the latter is Cochin China and the Chinese empire.

LAND OF THE MALAYS.—The said peninsula being inhabited entirely by Malays, is considered their original country, although it is now undisputed that, in the twelfth century, they came hence across from Sumatra and founded Singapore, which is separated from the peninsula by the Straits of Johore, two miles in width. In the year 1276 Sultan Mahmoud Shah adopted the Arabian religion, and his influence was extended all over Malaya, which included Johore, Quedah, part of Sumatra, and the islands Lingen and Bintang. The city of Malacca was founded by the famous Alfonso Albuquerque, who, in 1511, with 700 Portuguese soldiers, conquered it; and, vast fortifications having been erected, she dominated the straits. She levied dues on the two hemispheres, and became the great tollgate of the world, through which the ships, laden with the spices and all the treasures of the east—the precious stones and metals—were necessitated to pass to Europe from the Archipelago. After much skirmishing and continual defeats, the sultan removed to Singapore, and the Portuguese remained masters till, in 1640, the Dutch wrested it from them.

At the close of the seventeenth century, then in all her glory and power, Malacca was captured by the British, who razed to the ground all the fortifications. It was subsequently restored to the Dutch, retaken from them by England in 1795, but restored at the peace of Amiens. In 1807 it was again captured by the British, and restored in 1815; but was finally ceded to Great Britain in 1825, in exchange for the British settlements in Sumatra, handed over to the Dutch.

Mrs. Longworth Yelverton, a recent and vivacious visitor to Malacca, describes, in her book of travels, "*Teresina Peregrina*," the Malacca of the present day as an interesting record to the archæologist and antiquarian, looking beautiful in her decay—her ruined old gateways, once impregnable barriers of defence, elaborately carved in floral decorations, attesting the genius of Albuquerque;

and as specimens of Portuguese-cum-Moorish architecture ; and here, three centuries ago, did St. Francis Xavier, the Jesuit, preach Christianity ; with how little effect !

JACKOONS.—For a long time this diminutive race—as Bell mentions, not exceeding four feet eight inches in height—were reported to live up trees like monkeys. Many doubted the fact, but Mrs. Yelverton visited an old French priest, who had succeeded in getting hold of thirty children, whom he had reared, trained, and educated ; and the good old self-denying man was delighted to show off their knowledge, acquired through his unceasing labours ; but he had little hope of training them, unless taken when babies, like birds from a nest. She states : “The physiognomy of the Jackoons is unique ; the lower jaw projects half as far again as on a white man, and quite as far as on the tailless apes of Birmah. The head is long and strongly developed behind, though the front recedes but slightly. The eyes are large, almond-shaped, vivaciously expressive, and glowingly black.” They had rich bronze or copper-coloured skins ; were small in stature and ill-made. The toes are much longer, and the foot shorter and flatter than a white man’s, and with scarcely any instep. They use it as a hand to hold or pick up any object. A small harmonium was creditably played by one ; and all—dressed as choristers in white surplices—chanted the Gregorian chant with surprising time and precision. “I could scarcely believe my eyes and ears as I looked upon his jaw projecting so far in advance of his eyes, that I wondered how he could see the keys of his instrument ; the hand so short and the fingers so long.” They have no habitations, and scrambled up the trees when they saw her ; until the good pastor had induced them to lay aside their timidity, when they began to open their mouths, and grin a welcome. Some split bamboos across the branches, twenty feet from the ground, formed the domicile, without any covering beyond the leaves aloft ; and the furniture consisted of a few stones holding a heap of ashes, the cooking utensils being cocoa-nut shells, which served also as plates, and a hollow bamboo for a water-jug. “Their dress was scanty in latitude and longitude.” Monkeys sat beside them on the branches of the trees, and these they kept as dogs or pigs until they required to eat them ; and upon a boa constrictor a whole jackoon tribe will gorge for weeks together. They cultivate nothing, but use for shooting a *sumpitan*—one is in the Public Library Museum at Melbourne—from which they blow poisoned arrows, and are said to be dead shots. Sometimes they slay a pig or a deer. “The expression of their countenances is mild and gentle in the extreme. They never go to war ; affect no virtues, and commit no crimes.” They gluttonise upon *doorians*, when in season ; and, like the monkeys, clasp the trees with the palms of the hands and feet, and walk up on all fours. They order their friends, the monkeys, to pluck the ripest cocoa-nuts, and when these fall with a crash, the monkeys grin with pleasure. Mrs. Yelverton also witnessed a jackoon

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marriage, according to Catholic rites. The bridegroom was seventeen; the bride, fifteen years of age. She wore the Malay dress, a variegated sarong; and her luxuriant hair, "equal to two ponies' tails and manes, was smoothed over with a pint of cocoa-nut oil; and she had a white veil." Sundry monkeys, *habitués* of the different families, winked and blinked, and pushed their way forward, and enjoyed the fun as much as any person. "One monkey gave a black baby a punch in its very rotund gastric organs, which sent him off howling, while Jacko got a front seat, where he sat staring with as much wonderment as the rest of the children. Under direction of the priest, they had built a house of bark, and the whole district regarded it as a *chef-d'œuvre* of architecture; and the bride's friends now regarded her with something approaching to awe."

JOHORE is a large principality at the eastern extremity of the Malay Peninsula, opposite to Singapore. The sultan is an enlightened man, and has been educated in England. Tin mines are extensively wrought, and the *Chindrass* auriferous quartz reefs are said to be promising, several miners having been lately sent thereto from Victoria. From time immemorial stream-gold has been here raised—the very gold with which Solomon built his temple. Mrs. Longworth Yelverton says:—"Josephus, however, places Ophir in the Malay Peninsula, the golden Chersonese of Ptolemy, and Sir Emerson Tennant is of the same opinion. The gold and jewels, the ivory and apes, we know are there; as also the nutmeg, copper, and precious woods; birds of the brightest plumage, if not peacocks, yet certainly parrots and argus pheasants, elephants and rhinoceroses." She adds:—"I wonder if this was the identical ground where Solomon dug his gold, and if he ever escorted *Madam*, the Queen of Sheba, on a matutinal walk to inspect his great possessions." Certain it is, there is a vast area of ancient workings from which the gold has been extracted.

QUEDAH is a principality extending along the coast 150 miles, situated on the east of the Malay Peninsula. The sultan of Quedah was, in 1821, driven by the Siamese to Penang, an island in the Straits of Malacca, opposite to Quedah.

PENANG, or Prince of Wales' Island, is a most beautiful and very healthy island, and was, in 1785, granted to Captain Light by the sultan of Quedah as a marriage portion with his daughter, and by Captain Light was transferred to the East India Company. It contains about 160 square miles.

BINTANG is an island about thirty-five miles in length by eighteen in breadth, and lies off the south-eastern extremity of the Peninsula of Malacca.

RHIO is the chief town of Bintang, and is a Dutch free port; but in no degree lessens the trade of Singapore.

BANCA ISLAND, renowned for its tin deposits, is 130 miles in length by forty-five in breadth, and belongs to the sultan of Palembang.

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bang—Sumatra. The Dutch have a settlement, MINTO, thereon, and work the tin deposits, with the aid of Chinese coolies, directed by Dutch engineers; and these are more extensive than any known as yet to exist in the world.

LINGEN is an island between Sumatra and Borneo, and is now the principal possession of the Independent Malays.

JAVA.

JAVA.—Situated east of the Straits of Sunda, lies between latitude, north, $5^{\circ} 52'$, and $8^{\circ} 46'$, and between longitude, east, $105^{\circ} 11'$ and $114^{\circ} 3'$. On the north is the Java Sea, on the east the Straits of Bali, and on the south the Indian Ocean. It is 666 miles in length, from fifty to 135 in breadth, and contains 52,335 square miles. The Portuguese, in 1510, discovered it; but after founding various settlements, were driven therefrom by the Dutch towards the end of the sixteenth century. In 1811 the island was taken possession of by the English, who restored it to the Dutch in 1816; they so oppressed the natives by forced service and heavy imposts, that the chiefs for many years kept up a constant but ineffectual struggle with their oppressors. "Java is almost wholly volcanic, and a series of mountains betraying this origin, and varying in their elevation from 800 to 12,000 feet above the level of the sea, extends from east to west, through the whole length of the island. They also exhibit indications less equivocal of their origin, such as craters completely extinct, others with small apertures which occasionally discharge sulphurous vapours, and some which have emitted flames within a recent period. The geological formation of the island is unfavourable to the existence of metals." The rivers are insignificant; a few discharge on the Southern Coast. Among the mountains are some small and beautiful lakes, supposed to be craters of extinct volcanoes.

CLIMATE.—The seasons are not distinguished by hot and cold, but by wet and dry weather. The westerly winds, which bring rain generally, set in during the month of October, become more steady in November and December, and gradually subside, till in March or April they are succeeded by the easterly winds and fair weather, which continue for the remaining half of the year. Occasional showers, even in the driest season, refresh the air, and the landscape is, at all times of the year, covered with the brightest verdure. In the mornings and evenings, the thermometer in Batavia, Samarang, and Sourabaya, on the north coast, ranges from 70° to 74° , and at noon stands at about 83° . In the interior, among the hills, it seldom rises more than from 67° to 74° , and there the climate is most salubrious.

PRODUCTIONS.—Most beautiful and highly fertile is this island. "By the side of tropical plants are found most European vegetables,

and various fruits of more temperate zones." Rice—the staff of life—the coffee plant, sugar cane, tobacco, pepper, indigo, nutmegs, aloes, cloves, cinnamon, and plants which afford oils, here flourish to perfection; as well as medicinal plants, and plants the fibres of which are converted into rope, thread, and cloth. Amongst the former are the cubeb pepper, and the deadly *upas*. Maize is an important article of agriculture, and the choicest fruits of tropical climes thrive luxuriantly. The export trade of Java is very extensive, particularly in sugar, coffee, rice, and spices. Although an export duty of three per cent. is levied, as exemplifying the extent of the said trade, M. Bois le Compte wrote:—"The navigation and commerce of Holland draw from the island of Java advantages almost equal to those derived by England from the Indian Continent."

JAVANESE.—In 1829 the population of the island was said to be over 5,000,000, which included 100,000 Chinese; and in the independent native states of Surakarta and Yugya-kerta, situated in the eastern portion of the island, 210,000; as well as the Bugis and Malays who inhabit the maritime towns; the latter in the western portion of Java numbered 500,000. Of course, since the date we mention, a very great increase in population has taken place. "In common with the inhabitants of the whole Indian Archipelago, the inhabitants of Java are pronounced by Sir S. Raffles, to bear in their features marks of Tartar origin; their colour is of virgin gold." Their cheeks are prominent, the beard scanty, hair lank and black. The women are less good-looking than the men, and hideously ugly when old. "Every village forms a community within itself, each having its officers, its priests, and its temple appropriated to religious worship. The priests are accustomed to oppose the taking of *censuses*, upon the authority of the Koran, which calls down the punishment inflicted on King David, on the heads of such as number the people." Plyffer says of a *rongin*, "Her songs are impromptu and suited to her auditory. In the twinkling of an eye she selects the preferable points of her admirer's exterior. An arch smile lights up her features; she extols his handsome figure, his noble bearing, his eyes, his feet, and dress; and sums up her eulogy with a seductive and apparently artless portraiture of his liberality and munificence. These girls also recite national ballads, of which the substance is derived from legendary recollections of their ancient rulers. Many of these ballads are perfect fac-similes of Ovid's *Metamorphoses*. These '*rongins*' are a kind of improvisatrici or dancing girls. Like most Eastern nations they are enthusiastic admirers of poetry; and are said to possess a delicate ear for music."

A peasant's hut, constructed of bamboos, does not cost more than forty shillings; those of the chiefs or nobles perhaps £10 or £15. The Chinese have buildings of brick and mortar. The spot of ground around his hut the cottager cultivates with care, and considers it his peculiar patrimony—so engrafted in us all is the

laudable love to possess a homestead, however humble it may be. Sir Stamford Raffles says:—"The cottager labours to plant, and to rear in it, those vegetables that may be most useful to his family, and those shrubs and trees which may at once yield him their fruit and their shade; nor does he waste his efforts on a thankless soil. The assemblage of huts that compose the village become thus completely screened from the rays of a scorching sun, and are so buried among the foliage of a luxuriant vegetation that at a small distance no appearance of a human dwelling can be discovered; and the residence of a numerous society appears only a verdant grove, or a clump of evergreens." Assuredly, if a person can imagine Paradise, as it has been depicted to have been at the advent of Adam and Eve, Java, to our mind, bears a greater resemblance than any country we have seen. A fertile soil has been improved by the hand of man. It is ever verdant; the richest vegetation in Australia, in comparison with that of Java, is but arid and barren—or rather so appears to the eye. Perpetual verdure of the brightest green, elegant trees and beautiful flowers of large proportions abound. The furniture of a cottage is very simple. The bed is but a mat, with bamboo pillows. Neither chairs nor tables are used; but they sit cross-legged, and, like all Mahomedans, only use the right hand at meals. "Rice is the chief article of food, but various pungent pickles and condiments are used almost with every description of food. Water is the only beverage; it is generally drunk warm, sometimes a little cinnamon or other spice is thrown into it, and tea is commonly taken between meals. The betel leaf and areca-nut are indispensable articles for all classes." Throughout the Archipelago this is used; upon a small betel leaf, a paste made of lime (carried in a small box) is spread, then a piece of areca-nut is inserted, and the leaf rolled around it, when it is placed in the mouth, embedded in either cheek, and is crunched at will. It stains the teeth black, and imparts an aromatic flavour highly relished. Opium also is much used. They are a nation of husbandmen, the wealth of a province or village being measured by the fertility of its land, its facilities for rice irrigation, and the number of its buffaloes.

"RUNNING A MUCK."—Here, as in many of the Asiatic Islands, occasionally a man "runs a muck." He works himself up to such a pitch of excitement in brooding over an insult or injury, that he takes up his "kriss," a dagger-like knife, that is constantly worn, and out he sallies through the village, striking at, and wounding or killing any or everyone on his hasty passage, until the *peon*—native policeman—or other person kills him. In Singapore we saw the *peons* carry a forked stick, with which to stick up against a wall or tree such an insane individual, and perhaps knock him on the head, as they would a mad dog.

At WELTEFREDEN, six miles from Batavia, on elevated ground, all the Europeans reside; and the merchants, at four or

five o'clock, at once drive out of Batavia proper, the sea-port; as to sleep one night therein would be almost certain to induce an attack of fever. This is owing to the marshes around the port, the miasma arising from which at night is most pernicious; but at a few miles' distance the climate is as healthy as can be expected in such a latitude; and if you proceed fifty miles up the country, to the hills, a most delightful climate can be attained; in fact, persons from Singapore, where there is no very hilly country, proceed to the highlands of Java as to a sanatorium.

FEVERS.—The disease which used, before the Dutch canalled and drained the country, to prove very mortal, is of a remittent character. Dysentery is rare; "but inflammations of the liver, which terminate fatally by the formation of matter, are of a chronic nature, and almost always the consequence of long continued spirituous intemperance."

TRAVELLING BY POST.—Throughout the island are excellent roads, and the government conducts the posting along them. A traveller, having procured his passport, desiring to visit Buitenzog—about fifty miles up the country—gives notice at the post-office of the time he intends to start from Batavia. The government send an *avant courier*, to notify that relays of ponies must be ready as the vehicle arrives along the road. It starts with, perhaps, six passengers, and an exciting journey is undertaken. Two men sit or stand in front, one drives the six Timor ponies, the other uses the whip. Two *syces* stand on the footboard behind, and they also have whips to use on an emergency, if the horses flag or jib; and, at night, these men carry the torches to light the road; as travelling at night, and in the cool of the evening, is the custom of the country. So despotically have the Dutch governed Java, that the natives make obeisance to any white man passing, and cringingly allow him the road if it be narrow. We voyagers by the P. and O. Company's steamer reached Buitenzog in about four hours. The drivers and attendants shouting and lashing all the way to keep good time, twelve miles per hour; the rapidly changing of the horses—Timor ponies—casting into the shade even Cobb and Company's arrangements, the animals being ready on the green sward before our arrival. This was a lovely ride; the roads hard, and chocolate coloured; cultivated ground all the way; bamboos lining the sides of the roads, interspersed with palm and other tropical trees.

Although the Dutch are masters of the island, yet at the eastern portion—one-fourth of the whole, and comprising some of the richest districts—are two native governments, before-mentioned, one Surakarta, under an emperor, and the other Yugya-kerta under a sultan, of formidable influence. "Fanaticism, jealousy, and inextinguishable hatred lurk in the dismal recesses of the island, sowing distrust and contempt of Europeans, who are called Orang Kafir, pagans, or infidels." We regret that paucity of space debars us from dilating

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upon the scenery around Batavia, the beautiful Queen of the East, so well meriting the cognomen; the opera, balls, and musical parties; and the general luxurious style of living of the 8000 or 10,000 or more Hollanders, as hospitable and generous here as at the Cape. Many are very wealthy, having been born and reared in the country, and inheriting large possession from their ancestors. The only requisite for a tourist to enjoy himself here, as throughout the east, is abundance of cash, which franks him pretty well, with the letters of introduction, so indispensable, especially if he hail from Australia; a most unmerited reproach, founded upon absolute ignorance of geography, so partially taught, if not altogether neglected in English schools. Indians, we are told, are as ignorant as Englishmen of the change which has in twenty-four years taken place in colonial society.

BATAVIA is situated on the north-west coast of Java; and here resides His Excellency the Governor of Netherlands India; and herefrom he rules all the Dutch East Indian settlements.

SOURABAYA is a sea-port of considerable importance on the north-east coast.

SAMARANG is also a sea-port of considerable importance on the north coast, west of Sourabaya.

BANJOEWANGI is on the south-east coast, the landing place of the cable from Port Darwin, 1186 miles in length.

MADURA is an island at the north-east end of Java. It is ninety-one miles in length by thirty-one in width, and in 1815 contained 218,659 souls, inclusive of 6344 Chinese. The natives less resemble the Malays than most of the other islanders. Rice is grown in abundance, and buffaloes, sheep, and bay salt are exported therefrom.

STRAITS' SETTLEMENTS.

THE ISLAND OF SINGAPORE, MALACCA (on the Malay Peninsula,) and the ISLAND OF PENANG, are styled the Straits' Settlements, and are all under one government—the British—the seat of which is at Singapore, in latitude, north, $1^{\circ} 51'$, and longitude, east, $103^{\circ} 51'$, equi-distant from Calcutta and Canton.

THE FURTHER QUEEN OF THE EAST.—To such gigantic proportions has the trade of SINGAPORE expanded, owing to her freedom from all restrictions to trade, that she bids fair to maintain this appellation, many years since applied to her, in contradistinction to that of QUEEN OF THE EAST, referring to BATAVIA.

SINGAPORE, Bell remarks, "has the honour of being the first colony in modern times (perhaps in ancient, also) in which the principle of free-trade has been declared; and if any example were wanting to prove the policy of a liberal system, with regard to commerce, we

should say, look at the history of Singapore." Hundreds of Malay prahus go in and out of port daily, exchanging their produce of the Archipelago for European manufactures. The trade with Europe, India, and China, is immense. The annual arrival of the junks from China, during their stay from December till June, causes the harbour to present a surprising degree of activity; in fact it can only be likened to a floating fair, boats are continually passing. The greatest excitement prevails when the approach of the first junk is signalled, as all are anxious for news from China. Some run one way, and some another to announce the news, and everything that will float is called into requisition to go out to meet the junk. "The first boat reaches the junk, when she is still several miles distant; and as she nears the town she gains an accession of bulk at every fathom, until at last, the unwieldy mass slowly trails into the roads, surrounded by a dense mass of boats, having the appearance of a locust which has inadvertently crossed an ants' nest, and is dragging after it countless myriads of the enraged inhabitants attached to its legs and feelers." The men in the boats shout to those on the deck, asking questions as they proceed, whilst "the Chinese sailing master, who struts about on the top of the thatched habitation on the quarter deck, with all the importance of a mandarin with a peacock's feather, endeavours in vain to make himself heard above the noise, so that the junk is generally brought up in the outer roads." The same scene is enacted on the arrival of the other junks. After a few days' occupied in building roofs to shelter the goods exposed on the decks, the fair commences, and from morning till night the junks are surrounded by boats full of traders.

Mr. Earl, from whom we are now quoting says, "the majority of the immigrants embark in China without sufficient money to pay their passage to Singapore, and these defaulters remain in the vessel until they are redeemed by their friends; or by strangers engaging their services for a stipulated period, and paying their passage money as an advance of wages." The following from the *Singapore Free Press*, of last February, forcibly alludes to the present position of the settlement, which, in 1829, contained but 17,664 persons, exclusive of the Europeans, 122, and of the military:—

"To-morrow, the 6th February, will be the anniversary of the foundation of the settlement of Singapore. Fifty-six years have passed since Sir Stamford Raffles planted the British flag on these shores, and declared Singapore 'a free port for ever.' The foresight of its illustrious founder, who perceived the immense advantage that must accrue from the adoption of a policy so opposite to that of other ports in the east, and, in fact, to that of the world in those days, has been evident in the unexampled prosperity which has now for upwards of half a century attended the place. The little fishing village, backed by a dreary waste of swamp and jungle, where tigers and beasts of prey held high revel, has been replaced by a

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city with 100,000 inhabitants, supported by a vast trade that—the island producing almost nothing—owes its existence partly to its geographical advantages, but mainly to that enlightened policy of free-trade, which not only first attracted it hither, but is the foundation-stone upon which it has been built. It has not been all plain sailing since the opening of the place. Its early history witnessed many struggles on the part of the pioneers of commerce who first began the traffic which has since grown to such gigantic proportions.

"On the 1st April, 1867, ten years after the mutiny, the Straits Settlements became a Crown colony, of which Singapore was made the capital. The earlier years of its colonial experience were not encouraging. No attention was paid to the vital necessity of maintaining uninterrupted traffic with the neighbouring native states, upon which Singapore was entirely dependent, not only for its exports, but for a market for its imports; establishments were increased and multiplied, and the Governor, Sir Harry Ord, openly expressed his predilection for import and export duties, in opposition to the fundamental principle of the settlement, free-trade. Happily this danger is now past, and not only Singapore, but the entire colony, is in a fair way to realise its hopes of a closer intimacy with the neighbouring native states, which, during the agitation for the transfer, was looked for as a necessary result of the change of government. The new policy that has been inaugurated by Sir Andrew Clarke, steadfastly and judiciously pursued, must of necessity greatly augment the commerce of the colony; and Singapore, from its natural advantages, must continue to be, as it has been in the past, the *entrepôt* of a vast and constantly increasing trade. Although, looking back from our present standpoint, it has been prosperous and successful, it is still only in its infancy, and the future lies all before it. The extensive trade it now enjoys has yet ample room to expand; vast fields, as yet unopened, lie spread out around us on all sides, for whose produce Singapore must be the natural market, and which, in turn, must hence obtain their supplies. In view of the new policy which Sir Andrew Clarke has inaugurated, there is good reason to hope for a future even more prosperous than the past, and we look forward with sanguine expectations to the steady increase of our commerce, the continued expansion of our fast-growing city, and a progressive augmentation of its already substantial wealth."

TIMORIAN CHAIN OF ISLANDS.

TIMORIAN CHAIN.—Mr. Wallace notices that a chain of islands, between which no strait exceeds twenty miles in breadth, continues between Java and Timor. Bell says that, west of Timor, this chain

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is double. The northern are larger and closer together, viz., Ombay, Pantar or Alao, Lombat, and Selrao—extending in a westerly direction from the northern part of Timor—all inhabited by fierce tribes, having a strong resemblance to those of Timor. Solor is divided from Selrao by a small strait; inhabited by savage mountaineers; and, on the coast, by the Badji tribe—Mahomedans, who trade with Coepang, Macassar, and Sumbawa.

FLORES is a beautiful island, east of Sumbawa, almost as large as Timor. The natives more resemble Papuans than Timorese. They form a number of petty states; constantly at war with each other. This and the adjacent islands were coasted along by the *Somerset* on her passage to Singapore through Torres Straits, elsewhere noticed.

OMBAY is east of Flores.

WETTER is east of Ombay, and north of Delli, the Portuguese settlement on Timor.

SERWATTY GROUP are east of Wetter.

TIMOR-LAUT is east of the Serwatty Isles, and immediately north of Port Essington.

SUMBAWA is an island east of Lombok, separated from it by the Straits of Allas.

LOMBOK is an island east of Bali, separated from it by the Straits of Lombok; and here occurs, as Mr. Wallace points out, the dividing line—the straits being but fifteen miles wide—east of which, the islands, in bygone ages, constituted a portion of and were joined to Australia; west of which the islands were once part of Asia. Mr. Wallace is guided in his conclusions—given in detail elsewhere—by the great dissimilarity in the animals, vegetables, birds, and insects existing east and west of the said cleavage, as he terms it. It is a beautiful and highly-cultivated island, and abundance of rice is raised and shipped hence. A friend of ours, in 1852, retired after a five years' residence, having amassed a fortune, he and another European being the only white traders; the one having a monopoly of the rice trade—granted by the rajah—at one end of the island, the other in another portion. Mr. Earl states that Lombok only differs from Bali in the circumstance of the natives being Mahomedans.

BALI is an island east of Java, separated from it by the Straits of Bali. All these islands, from Timor to Java, are within the volcanic curve described by Mr. Wallace. Starting from the Andaman and Nicobar islands, in the Bay of Bengal, the chain of mountains, as noticed by Malte Brun, runs through Sumatra, giving rise to it, as well as to Java and the Timorian chain, the direction, in form of a bow, being from north-west to south-east, then due east. When at Cape Diemen it must trend north and south. Mr. Earl mentions that all the ranges which have yet been discovered in the Archipelago and in the intertropical parts of eastern Asia, extending from north-west to south-east, are of volcanic origin, and of the same formation,

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granite. One running along the west and south-west coasts of Sumatra, terminates at the south-eastern extremity of the island. "Two ranges traverse Cambodia and Cochin China in the same direction, and these will, I think, be found to terminate in Borneo and Billiton." He thinks the Balinese may be descended from the Siamese, whom they resemble. The population was over 1,000,000 Hindoos. "The slaves of a great man are consumed upon his funeral pile, and the burning of women amongst them is carried to an extent unknown even in Continental India." Their whole attention is devoted to agriculture; rice, hides, tobacco, and coffee being exported. The cotton is considered the best in eastern India, and is manufactured into calico by tediously cleaning and spinning the raw material.

SANDALWOOD ISLAND is west of Timor, and south of Flores. The natives are savage and treacherous. Bell notes that fifty years ago they threw off their allegiance to the Dutch, who persisted in cutting sandalwood, fully believing that the cutting down of a tree deprived of life one of their number, and that these trees are the present abodes of the souls of their ancestors.

SAVU is an island sixty miles due west of the north part of Rotti. The natives resemble the Timorese, but are much fiercer.

ROTTI is the largest of the islands under the Dutch Residency of Coepang on Timor, from which it lies south-west. Bell says:—"It is about sixty miles long by thirty-eight broad; and is at present divided into eighteen districts, under the government of as many rajahs, who can bring upwards of 10,000 armed men into the field. The natives are darker than the people of Celebes, but are remarkable for having long black hair, whilst nearly all the inhabitants of the adjacent islands have frizzled hair." Their features more resemble those of the people of India than of the surrounding islands; and they are mild tempered. Formerly hundreds of slaves were annually exported by the Dutch to Batavia, Amboyna, and other Dutch settlements.

TIMOR.—This large island is situated between latitude, south, 8° and 11°; and between longitude, east, 123° and 127°, about 400 miles north-west of Port Darwin. On the limestone mountains, frequently presenting a conical form at an elevation of 800 feet, are sea shells. The island is subject to earthquakes, and is throughout a hilly country. "The valleys are generally narrow, with steep sides, oftentimes opening into plains of considerable extent. The rivers are all small, and so steep that none of them are navigable beyond the influence of the tide, which seldom extends beyond 400 yards, and in the flattest not more than two miles."

COEPANG HARBOUR "is a large bay, about twelve miles wide at the mouth, and upwards of twenty feet deep, formed by the island of Semao to the south-west, and a point of Timor to the north. It is entirely open to the north-west."

DELLI HARBOUR, "on the north-east coast, is well defended from the sea by a reef of rocks."

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No person whom we saw at Port Darwin had been to Delli, although many had been to Coepang; consequently the prevailing ignorance of the fertility of the other end of the island on the elevated or rising land, some miles from the coast, may be accounted for. Mr. Wallace, the eminent naturalist, resided some time at the eastern part, with which he was thoroughly acquainted, and we shall condense his description of the island. We learn from him that Timor is 300 miles in length, by sixty in width, and it is connected with Java by the chain of broken lands already alluded to. The land mammals are seven in number—the common monkey, a civet cat, a tiger cat, a deer, a wild pig, a mouse-peculiar to Timor, an eastern opossum, found also on the Molucca Islands—but not one marsupial.

The whole country has a parched appearance, the vegetation scanty and scrubby, strongly contrasting with the lofty forest trees and perennial verdure of the Moluccas and Singapore. The natives are more allied to the Papuans (New Guinea) than to the Malays; of a dusky colour; have aquiline noses, and frizzled hair. The common dress of the coast natives is a long cloth twisted round the waist and hanging to the knee. They carry an umbrella made of an entire fan-shaped palm leaf, carefully stitched at the fold of each leaflet to prevent splitting. Delli is in possession of the Portuguese government, which has a governor and staff of officials, and a few soldiers located there. The town is composed of miserable mud huts, thatched; and it is surrounded by swamps and flats, and is very unhealthy. A single night in the open air may give Europeans the fever. The Portuguese have occupied the place for 300 years, and one-half the Europeans in Delli are continually ill from fever. Yet there is one thing in which civilisation exhibits itself, the officials are dressed in black and white costumes, and the officers appear in gorgeous uniforms; but the whole aspect of the place is that of a poor native town, and there is no sign of cultivation or civilisation about it. The governor's house is merely a low whitewashed cottage. Captain Hart is the only English trader in Delli; he resides two miles from town on elevated land, and has a coffee plantation.

BALIBA is a village four miles from town, on the mountains, at an elevation of 2000 feet. Potatoes are grown higher up in abundance, and are good. Wheat of excellent quality grows at an elevation of 3000 to 3500 feet, and coffee would thrive at an elevation of 1000 to 2000 feet. "There are hundreds of square miles of country over which all the varied products which require climates between those of coffee and wheat would flourish; but no attempt has yet been made to form a single mile of road, or a single acre of plantation. There must be something very unusual in the climate of Timor to permit of wheat being grown at so moderate an elevation. The grain is of excellent quality, the

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bread made from it being equal to any I have ever tasted, and it is universally acknowledged to be unsurpassed by any made from imported European or American flour.

"The fact that the natives have, quite of their own accord, taken to cultivating such foreign articles as wheat and potatoes, which they bring in small quantities on the backs of ponies, by the most horrible mountain tracks, and sell very cheaply at the sea-side, indicates what might be done if good roads were made. Sheep also do well on the mountains, and a breed of hardy ponies, in much repute, runs half wild. So it appears as if this island, so barren looking, and devoid of the usual features of tropical vegetation, were yet especially adapted to supply a variety of products essential to Europeans, which the other islands will not produce. Rice grows well on the marshy flats which often fringe the coast; and maize thrives on all the lowlands, and is the common food of the natives. The small quantity of coffee now grown is of very superior quality, and it might be increased to any extent. Sheep thrive, and would always be valuable as fresh food for whalers;" and, we may now add, to the Port Darwinians it would prove a great luxury; and here presents, we should imagine, a fine field for a few adventurous youths, with but small capital, to breed sheep and ponies for the Port Darwin and East Indian markets. Although it must be very unhealthy to sleep on the coast, amongst the swamps, yet, doubtless, inland on elevated ground it is healthy enough.

Mr. Wallace says that in Timor horses thrive amazingly, and that enough wheat might be grown to supply the whole Archipelago if there were sufficient inducement to the natives to extend its cultivation. A fine spring of petroleum was discovered far in the interior, where it can never be available till the country is civilised. Sandalwood grows sparingly, which is exported to China; and beeswax, from wild bees, is another article of export.

DUTCH AND PORTUGUESE POSSESSIONS.—Fort Concordia is the seat of government of the former, Delli of the latter; and it is considered that the whole of the country, east of Delli, belongs to the Portuguese, and the whole of the south coast to the Dutch. Along the north-west coast the governments are mixed; but says Bell, "their authority is only acknowledged by such of the native chiefs as need their assistance against their more powerful neighbours."

PRODUCTIONS.—"The cultivation chiefly consists of rice, maize, millet, yams, sweet potatoes, and cotton. Their food principally is maize and the sugar of the loutar palm, and the produce of the sago palm. The use of the plough is unknown; a wooden hoe and a sharp-pointed stick are the only implements used in the hill cultivation. Cocoas and areca palms are scarce, but the loutar palm is abundant; and small quantities of sugar cane are raised. Fish are scarce, as few, if any, of the natives will trust themselves in a canoe. The bee is not domesticated here, nor indeed on any of the islands

in this quarter; but the vegetation supports an infinite number of wild bees. Gold is found in several of the rivers; two of the most productive are within the Dutch Residency; but the natives are superstitiously afraid of taking gold from these rivers, and are said never to do so without sacrificing a human being to the river deity."

TRADE.—This is considerable, especially at Delli. The imports are coarse blue and white cloth, large pattern chintzes and handkerchiefs, China silks of gaudy patterns, muskets, gunpowder, iron, coarse cutlery, and lead. The exports are beeswax, sandal-wood, and cattle. "The method of trade is singular. When the prahus arrive off the coast, they land the articles which they have for barter, in small quantities at a time, on the beach; whereupon the natives come down with the produce they have for sale, and place it opposite the goods from the prahus, pointing to the articles they wish to obtain in exchange. When an offer is considered sufficient by a native, he snatches up the proffered goods, and darts off into the jungle, leaving his own; or should he be unable to obtain what he considers an adequate offer, he seizes his own property, and flies off with equal haste, never returning a second time."

TIMORESE.—The inhabitants are numerous in the interior and along the south coast. There are but few villages on the north coast, the practice being not to reside in large communities. They are slight in figure, and more resemble the South Sea Islanders than the Malays. They are of a very dark colour, with frizzled bushy hair, but less inclining in appearance to the Papuans than to the natives of Flores. Their religion is pagan. The rajahs, whose will is the law supreme, wear *bajus* of silk or chintz, with five or six handkerchiefs of different colours round their heads. "Their ornaments consist of arm-rings of gold, silver, or ivory. Their deities are particular stones or trees. Sacrifices are common, and generally consist of buffaloes, hogs, sheep, or fowls. Until Dutch interference put a stop to the practice, a virgin was annually sacrificed to the sharks and alligators close to the town of Coepang. Every man capable of bearing arms is obliged to obey the call of his feudal lord. Their arms are muskets and spears of iron and bamboos; bows and arrows are only used by a few natives in the interior. Some of the rajahs call themselves the descendants of *caymans* or crocodiles, and seem to be every way worthy of such illustrious descent." Such is the description given of our near neighbours, residing within 400 miles of Port Darwin, and within two days' sail of the nearest point of the north-west coast of Australia. How few of us are aware of the contiguity of so civilised a race—semi-civilised though it be—to our own shores, upon which roam the most barbarous tribes.

TIMOR LAUT is an insignificant island due east of the Serwatty Group, immediately north of Port Essington.

KEY ISLANDS are north-east of Timor Laut, and west of the Arru Islands.

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ARBU ISLANDS, five in number, are east of the Key, contiguous to the south-west portion of New Guinea; and Mr. Earl states them to be about 250 miles from the north coast of Australia; and that possessing no spice trees, and the inhabitants being warlike and powerful, they have remained unmolested by the Dutch; and have become—when he wrote—the emporium of the south-eastern corner of the Archipelago.

CHAPTER V.

NEW GUINEA.

ISLANDS OF NEW GUINEA.—ROUTES TO CHINA, EAST AND WEST OF NEW GUINEA.

THE ISLAND OF NEW GUINEA, or rather the Archipelago of Islands, is 1400 miles in length, 300 in breadth, is supposed to contain 274,500 square miles, and lies between the 132° and 152° meridian of longitude, east, and between latitude, south, 0° 10' and 10° 50'. The population is estimated by the missionaries to be 1,000,000. A Mr. Egustrom, quitting Port Darwin, remained at Cape York, and, with the missionary, went across to Redscar Bay. He says—writing to the *Sydney Town and Country* journal—"A mountain range, 10,000 to 13,000 feet high, runs through the length of the island. It is supposed to contain extensive plains, fertile valleys, and navigable rivers. Mahomedan rajahs, or Malay chiefs, are located on the north-west coast, who pay tribute to the sultan of Tidore. All along the east coast they are a light copper-coloured race—Malay—below the average height, well made, with pleasing countenances, lively eyes, and heads covered with bushy hair, sometimes ornamented with the red flowers of the hibiscus and sweet-smelling leaves. Respecting dress, some young gentlemen wore nose ornaments, otherwise it was thought unnecessary, the climate being so hot. The ladies were tattooed all over, the face and all; and wore plain and coloured grass petticoats. They were walking about in a conceited manner, chatting in high glee." It is a most fortunate circumstance that Mr. Wm. Macleay, a gentleman of fortune, from Sydney, has already started on his expedition to explore New Guinea, as his presence there, with a body of scientific men, coupled with the fact of Captain Moresby already having hoisted there the British flag, may have the effect of forestalling some other expedition, if such be on the way. As indicative of the interest taken in the expedition by the Sydney merchants, the *Chevert* was accompanied down the harbour by over 200 gentlemen, including many members of Parliament and of the Linnæan Society.

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Mr. Macleay professes to go there in order to explore a great river which is known to exist at the head of the great bight opposite Cape York. It is believed that certain German and Russian *savans* have penetrated of late years into the country—although we here are not aware of it—and these reports, Captain Moresby says, had expedited his exploring trip, in order to be beforehand in naming the headlands, bays, and other geographical features. We also have been given to understand that two expeditions are on the eve of being organised to proceed to New Guinea—one from Sydney and another from Melbourne. We presume they will act as did Batman, who was animated with the most humane intentions towards the natives, when he came from Tasmania and purchased Port Phillip. So that the colonists are not going to wait for Great Britain to take the initiative, and she will be imperatively called upon, either to annex the island, or to leave the energetic spirits who go there to found their own form of government, if they can so arrange with the natives; otherwise the country will, in all probability, be annexed by a foreign government. Should this take place, the interests of all the Australian colonies will be imperilled; as at New Guinea an army and navy could be assembled without hindrance, and might remain *in terrorem* over us; and in the event of war, hostile vessels could sally out and capture our gold-laden homeward bound argosies; and possibly Australia, at some date more or less distant, might be annexed to New Guinea, in lieu of the present proposition. Can the British Government be aware that this island of Australia, which entails no expense whatever upon her, possesses boundless wealth yet to be poured into England, to help to enrich her citizens as well as our own; in testimony of which assertion we call attention to the fact that the gold alone which has been exported from one colony—Victoria—in twenty-three years has amounted in value almost to as much as the French indemnity, viz., to £178,658,947; independently of wool, valued at £67,459,476, and independently of the gold, copper, and wool from the other Australian colonies. We really think that the Australian colonies generally owe a deep debt of gratitude to Captain Moresby for his persistent advocacy of the policy of annexing New Guinea to the British empire, as well as to Mr. Michie his able abettor.

Very little indeed is known of the interior of New Guinea, which is said to have been discovered by the Spaniards in 1528. Bell states, that, in 1828, the Dutch projected a settlement, to be called Merkus. A corvette anchored in a good bay, east of the island of Ardeema, and to the eastward of the island of Lokaia. The expedition took possession of part of a district in the territory of Lobo, but this was subsequently abandoned.

Opposite Cape York, about eighty miles distant, on the south-east coast of New Guinea, is Redscar Bay, into which debouches the Fly River. On the north-west coast, east of Salwatty, which is at

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the extreme north-west point of the island, is Geelvinks Bay; east of it is Dorey Harbour, where is the village of Andai—at the foot of Mount Arfak, 9500 feet high—whence M. L. D'Alberti, the enterprising Italian naturalist, started to visit the villages on this range of mountains. He was welcomed, and kindly treated by the natives during the time—one month—that he resided amongst them. Within sight, on the island of Mansinam, two German missionaries dwell, or did dwell. As their salaries were so small, they also traded with the natives, who sold them the rice which, thriftlessly acting in selling, they were compelled to buy back for tortoise-shell, trepang, beeswax, and wild nutmegs. Into Geelvinks Bay a large river is supposed to empty itself.

WAIGIOU, the north-west point of New Guinea, contains 100,000 inhabitants. The people, Mr. Wallace says, take no trouble to plant vegetables, as they live on sago, which palm thrives most luxuriantly, and fish; and almost all have slaves, "on whose labour they live in almost absolute idleness, just going out on little fishing or trading excursions, as an excitement in their monotonous existence." They are under the rule of the sultan of Tidore—one of the Moluccas—subject to the Dutch—"to whom every year they have to pay a small tribute of paradise birds, tortoise-shell and sago. To obtain this, they go, in the fine season, on a voyage to the mainland of New Guinea, and getting a few stores on credit from some Ceram or Bugis trader, make hard bargains with the natives, and gain enough to pay their tribute, and leave a little to spare."

SAGO MANUFACTURE.—As exemplifying one article of export which we are informed could be produced to any extent in New Guinea, we will quote from Mrs. Yelverton's account of the sago-city of Muka, three miles in length, at Sarawak. She describes the houses as built upon posts, twelve to fourteen feet high. It is a water city, and there is no exit from a house except by water. The manufacture of sago is a disgusting process. Around the houses are boats upon which are hundreds of sago trees. Balconies, upon which are mats, project over the boats. The tree grows twenty or thirty feet high, with upright leaves. It has to be cut down to procure its pulp, but the young shoots spring up rapidly; "the soft sago wood is scooped out and placed upon the mats, water is then thrown upon it, and the women commence dancing upon it, forcing the saccharine gum through the mat into a boat below, the woody fibre remaining upon the mat. These rows on either side of curious little Malay women, in blue petticoats tucked up, stepping it on the 'light fantastic,' little bare toes, like puppits in a punchinello show, strike the observer as mighty odd." The boats are but receptacles for the pulp; the aqueous part having evaporated in the boat, it is made into blocks, and then ground into flour and used as food. The Borneo Company have a steam mill, beating, treading, and grinding; the natives supplying the trees. "While the sago is effervescing

and forming into pulp, the stench is terrible." In London the raw sago flour is converted into the globules of commerce, and also at Singapore it is so treated. Probably a sago factory at New Guinea would be as profitably worked as at Sarawak, as there is said to be an abundance of palm trees, and a never-failing demand for the article.

ROUTES TO CHINA, EAST AND WEST OF NEW GUINEA.—The *Sydney Morning Herald* has published a lengthy and most exhaustive report by Lieutenant Lizard, of H.M.S. *Challenger*, as to the several routes, at different seasons of the year, compiled from ships' "logs." We very briefly make a few extracts as follows:—He terms the easternmost route east of New Guinea "the outer route;" from Newcastle to Norfolk Island, thence to Matthew Island, then north, along the 171st meridian to 11° south latitude, then north north-west through the eastern islands of the Caroline group. The length is, from Newcastle to Hong Kong, 6150 miles; to Shanghai, 6000 miles; and to Yokohama, 5500 miles. Another he terms the "middle route to China," east of New Guinea; from Newcastle, proceeding between Lord Howe's Island and Elizabeth Reef, on the north-west extreme of New Caledonia; then between the Solomon and Santa Cruz Islands; thence north-west by north to the equator, then a northerly route through the middle of the Caroline group. By this route, from Newcastle to Hong Kong, the length is 5500 miles; to Shanghai, 5400 miles; to Yokohama, 4900 miles. A third route, east of New Guinea, he terms the "inner route to China;" and from Newcastle follows a line to the 157th meridian; then due north to Pocklington Reef, in 11° south latitude; then either to the north-west, between New Ireland and the Solomon Group, or to the north, through the Bougainville Straits; then north to the equator, which may be crossed about the 153rd meridian, east, from which a straight course may be shaped for either Shanghai or Yokohama; but for Hong Kong, a course to the northward of the line to Balintang Channel. From Newcastle, by this route, to Hong Kong, the length is 5000 miles; to Shanghai, 4900 miles; and to Yokohama, 4600 miles. The fourth, or "Torres Straits' route," follows a line from Newcastle north-east to the 157th meridian; then north to the latitude of the Mellish Reef; then north-west for Bligh's entrance to Torres Straits. When through the straits, the route is between the Tenimber and Arru Islands, for the passage between Ceram and Boeroe into the Molucca Channel; then round the north-east end of Celebes Sea, through the Basilan Channel into the Sulu Sea, then through Mindoro Straits into the China Sea. By this route the distance from Newcastle to Hong Kong is 5300 miles, and has been taken by only one ship, the *England*, which made the passage in forty-one days in the month of July.

"The 'outer route,' occupying an average of twenty-three days more than the 'middle route,' should on no account be taken by

ships leaving Australia in October, November, and December. Briefly then—Ships leaving Australia in the months of January, February, or March, for China or Japan, should adopt the ‘middle route,’ and may expect to make the passage in about forty days; leaving in April, May, or June, they should adopt the ‘inner route,’ and may expect to make the passage in about thirty-six days; leaving in July, August, or September, they should, if they can reach Torres Straits before the end of August, take that route; and if not, either the ‘middle’ or the ‘inner route,’ and may expect to make the passage *viâ* Torres Straits, in forty days, and by the other routes in fifty-five days; and finally, ships leaving in October, November, and December should adopt the ‘middle route,’ and may expect to make the passage in about forty-four days. Two other passages to China have been mentioned in the Sydney papers; one to the west of Australia, and through Sunda Straits, the other a modification of the ‘inner route,’ through some of the channels lately discovered by Captain Moresby, of H.M.S. *Basileisk*. The western route is only practicable for sailing vessels during the months of December, January, and February, as they may then get easterly winds to the southward of Australia. I should not, however, recommend this route even to Singapore, as during the months of November, December, January, February, and March northerly winds and a southerly current prevail in Sunda, Banka, Gaspar Straits, and the Carimatta Channels, and it is a tedious and heart-breaking process endeavouring to get to the northward under such adverse circumstances. I have known a ship thirty days from Sunda Straits to Singapore—a distance of 500 miles. With regard to the modification of the ‘inner route’ rendered advisable by the discoveries of Captain Moresby, I am unable, at present, to give an opinion, as the charts are as yet unpublished. Viewing, then, the different tracks in regard to their freedom from danger, there is no doubt that the ‘outer route’ is the clearest, and that probably is the reason it has been adopted by so many ships. The ‘middle route,’ however, is nearly as free from difficulty as the ‘outer,’ and will be, in my opinion, quite as safe when the survey of the D’Entrecasteaux Reef is completed—a work, I understand, the present hydrographic staff in New Caledonia are engaged on. The ‘inner route’ is at present the least known, and unquestionably that portion of it between the Solomon Islands and New Guinea requires to be surveyed; still, however, the passage between the Solomon Islands on the eastern, and the Louisiade Archipelago and New Ireland on the western side, is a wide channel apparently free from danger (with the exception of the Pocklington Reef;) and in the months of April, May, and June, during which ships gain the greatest advantage by using it, the weather is fine, so that I see nothing to deter vessels taking this track, provided a good look-out is kept; and it must likewise not be forgotten that should it be found the quickest,

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as it is the shortest, highway to China, a vessel would probably soon be employed in properly surveying it. The 'Torres Straits' route,' although not free from danger, may be navigated with facility by captains who have any experience amongst coral reefs, and who are accustomed to con their vessel from the masthead—a precaution which is absolutely necessary. Once through the strait there are but few dangers on the track to China, as although the islands are many of them doubtful in position, they are of sufficient height to ensure their being readily seen."

CHAPTER VI.

A MONTH AMONG THE PAPUANS OF NEW GUINEA.

IN 1873, the *Sydney Mail* published two very long articles, being an interesting account of the Papuans, from the journal of M. Luigi M. D'Alberti, of the Italian Natural History Expedition, translated from the Italian by Dr. G. Bennett, of Sydney, and we make the following condensed extracts therefrom. The expedition, then in these seas, landed the naturalist at Dorey harbour, on the north-west coast of New Guinea, and he proceeded to Andai, a village ten miles from Dorey, near the foot of Mount Arfak, which is 9300 feet high. The Dutch missionary there resident was very friendly; and the *corano*, or head man of the village Andai, procured the services of natives disposed to carry his baggage up the mountain he proposed to ascend. By the aid of presents he induced six natives to accompany him on wages, four of them being Arfaks from Atam. On 4th September, 1872, he started for Atam, a populous village on the mountain, having taken leave of Dr. Beccari, who remained with the missionary. The natives he brought from Amboyna could not accompany him, as they were dangerously ill. As interpreter, he took with him a Malay, David, who could speak the Malay and Papuan languages; and one of the natives took his wife, who had a child seven years old with her. "Thus my escort consisted of eight persons. The woman took a portion of her husband's luggage, and, together with her own, was far more loaded than he was, and had a load more fit for a strong man than a woman in her peculiar state. The men were armed with bows and arrows, and the *parang*, which is a large knife, narrowed near the handle, and enlarged towards the extremity of the blade; and some also had spears."

After crossing a creek in a canoe, and one hour's walk on level ground, through a forest, they ascended a steep hill. The forest was gloomy and monotonous, as the men were too loaded to talk, and dead silence prevailed, broken only by the loud and deep cooing of pigeons, and hoarse voice of the black megapodius—the brush

turkey. One of the latter he shot for dinner, a welcome addition to his yams and sago, his only provisions. Having arrived at the summit of the hill, they walked for an hour along a level forest country, descended near a stream deliciously clear and fresh, halted, and the men prepared their rations of sago, with water. Having ascended many hills, which gradually increased in height, the road became more difficult. "I watched, and saw several birds of paradise, the beautiful *Paradisaea Papuana*, who flew, screaming, amongst the branches of the trees, which are less thick and not so lofty as those at a lower elevation. The large-crowned pigeons were very numerous, and I succeeded in killing three. At four p.m., we had attained an elevation of 1500 feet above the level of the sea, which I saw to the east, not very far from us." After a short descent, they found themselves in an extensive bed of a watercourse, dry, denoting, from its appearance, that, a long time ago, the fall of water was of great magnitude. The mountain was, in some parts, perpendicular; in others, undulating. They espied a woman, who at once fled. "My astonishment increased on seeing a number of natives descend from the mountain. They appeared from the reeds, shrubs, and rocks, and from such places as I never supposed would have afforded egress to human beings, for hearing voices behind me, and returning, I perceived, coming out of the bed of the stream, emerging from behind the large stones of the watercourse, as if by magic, men, women, children, dogs, pigs, and then found myself among a nomad tribe. The men were all armed with bows and arrows, and the *parang*, and some weapons were even carried by the women and children."

The men had their foreheads ornamented with a band made from a slip of bark, supple, and ornamented with shells, disposed in an elliptical form, and tied at the back of the head. The upturn of the nose was pierced, and in the orifice was placed a little circular piece of finely-polished white shell, from one to six inches long. The rings for the ears are made in the same manner; and several of these ornaments often adorn the foreheads of both men and women. They make cigars from the pandanus leaf rolled up, and place them in the lobe of the ears or septum of the nose. Some of the natives were very friendly and inquisitive, and some were timid, clustering in picturesque groups. The women and frightened children formed groups among themselves. They were natives from the mountain, returning from the sea shore, where they go occasionally to procure salt, which they extract from the ashes of a plant growing in the locality. They separated into parties going to various places in the mountain. "I began to ascend with the other natives—known to his men—to their house, situated about 500 feet above the torrent. Here the forest was still of the same gloomy character, relieved, in some places, by being cleared for plantations of sugar-cane and bananas." He enjoyed, at sunset, a magnificent sight, with an

extensive view of the sea and the island of Mansinam, "which seemed, by the reflection of the sun, under a glow of fire, and the birds raised their voices, in chorus, saluting the closing day." The house was built for four families, on the trunks of trees, and was ascended by a long ladder. He was presented with sugar-cane, and, in return, gave the natives tobacco, and under their roof slept well, notwithstanding their continual talking all night. Next day, after his men had obtained a supply of bananas and sugar-cane, at eight a.m. they ascended Mount Putat, and reached the summit at mid-day. The village consisted of four houses, inhabited by forty or fifty natives. To the north-east, a great part of the coast of Dorey and Mansinam was visible. Here the natives demanded payment, and refused to proceed further. "To convince them that they could not deceive me I had recourse to stratagem, by telling them, with my pocket barometer in my hand, 'I know where Atam is situated, as this instrument indicates exactly, marking the height, more or less. Atam is at such a height, so you will understand I will only pay you on our arrival at Atam.' Then they asked me to prove what I said. I consented, and ascended the mountain so as to have a sensible variation in the barometer."

They marked it, and observed the difference, and his stratagem succeeded. At last they consented to proceed next day if he would engage more men to help to carry the luggage. The remainder of the day he was occupied looking for insects, aided by the women and children, whom he rewarded with venetian beads, which were highly appreciated by them.

At seven o'clock next morning he started, accompanied by twenty additional men, women and children, but only five were paid by him, the others proceeding as amateurs. A little girl six years old led the way, but refused to be friendly, and screamed if he looked at her. She had a net-bag, called a *nockin*, in which she had provisions; she also had a very little dog, remarkably ugly. She carried in her hand a branch of a tree, with which she cleared away the spider's webs, which often obstructed the pathway. She was followed by another little girl still younger, her sister. After them came their mother, a robust young woman, with a good complexion, having reddish hair, and very bright eyes. Other women followed, carrying *nockins*, and armed with spears; among them was a girl about fifteen, the wife of one of his men. "The colour of her skin was more black and glossy than that of the other women. Her eyes were brilliant, under long eyelashes, and teeth beautifully white, made a great contrast with her deep ebony colour. Ornaments and shells were intermingled with her hair, and dropped gracefully over her forehead; a necklace of white shells fell gracefully, resting on her bosom. Her form was elegant; and she had an agreeable vivacity; was graceful in all her movements, and was very intelligent; her smile was sweet and agreeable,

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and her voice harmonious, and very pleasing to hear. From time to time she would sing a wild chant, which had the effect of exciting the energies of her companions. The dress of these people is very simple, and is, indeed, reduced to a very small scale, for it consists merely of a small piece of calico, or the bark of a tree, to a very limited distance, both before and behind, and tied by a thin cord round the waist, which is generally invisible; but, by way of contrast, they wear a great number of bangles or bracelets made of shells or of brass." On descending the mountain they passed several plantations of yams, bananas, maize, and tobacco, and came into a forest of magnificent trees and tropical vegetation, but not so dense as to prevent them seeing a great distance. At the foot of Mount Putat they found streams of clear and fresh water, and were now 700 or 800 feet above the level of the sea; as they advanced along the bed of a dry watercourse, very rugged, they gained a greater elevation, and at noon rested. The Papuans then bathed and washed their bushy hair, according to custom. "Below we beheld the same forest, but immediately around us were only tree ferns, bamboos, and shrubs; to the north-west a great extent of fine country was seen." They came across a deserted hut, made fires, cooked their provisions, and there slept, and at sunrise resumed the journey. They still ascended, and reached the summit of the mountain, 3600 feet high, and found huts of natives. Hitherto they had seen but few birds, but here saw a superb bird of paradise, *Lopharina atra*. Mount Arfak is marked on the chart as in latitude, south, $1^{\circ} 4'$, and longitude, east, $134^{\circ} 2'$.

"I believe the range of mountains, on which we now are, belongs to Mount Arfak. At the east there was no view, as the thick forests of noble trees were close to us, and impeded the prospect." On the rugged pathway he had many falls, and envied the sure footedness of his companions, who had a power of the muscles of the feet, rendering them as useful as hands; "for by the assistance of the great toe, acting in a similar manner to the thumb of the hand, they were enabled to lay hold of any object, such as a root of a tree, or a stone on the road. By ten a.m., we had descended 3600 to 2700 feet, and arrived at the bed of a large river, containing more water than the others we had passed; and, I understood from the natives, that it is the source of a large river which flows into Geelvink Bay, situated in latitude, south, $0^{\circ} 42'$, and longitude, east, $133^{\circ} 40'$, and named Prafi by the natives." They took the track that led to Atam, through a forest of rich vegetation, very gloomy, but relieved by a very abundant plant, bearing bright red flowers, and tree-ferns of a large size and deep green colour. Everywhere the forest was well watered by small brooks. At three p.m., they arrived at Atam, at an elevation of 3500 feet. He sent for the corano of the village, who resided higher up the mountain; and

rambling about, procured a fine specimen of the golden or six-shafted bird of paradise; and enthusiastically does he dwell upon the brilliant plumage of this magnificent bird; upon its haunts, and upon its habits. He obtained other specimens of rare birds of paradise, "with their velvet and metallic plumage, reflecting brilliant colours."

Suddenly appeared before him the corano, and about twenty men, all armed to the teeth, who defiled before him in silence, and laid down their arms. The corano was armed, and lavishly adorned with flowers. "He was followed by his son, a youth about twenty-five years of age, and his daughter, about twenty years old, both albinos. Their hair was of a very clear white colour, eyes blue, and skin of a very white colour. In their simple and national costume they recalled to my recollection the representations of Adam and Eve, and in viewing them I imagined what our progenitors must have been. The corano was a tall, powerful man, with a severe expression of countenance. I invited him and his albino family to partake of my poor fare. I presented, amongst the whole of them, a cup of Cognac brandy, but the corano reserved it for his own august person, and drank it all at once." After welcoming him to his territory, the corano presented him with yams, maize, and oranges—mandarin. He questions if these oranges are indigenous, or have they been introduced. "If so, at what time, for the Dutch missionary did not know, and from the fruit having been seen produced on the mountains at Atam, and not on the plains, renders it more probable that it is indigenous. Other kinds of oranges and pomplemooses have been introduced, and grow very well at Dorey, but not the mandarin variety. There is also a native citron growing near the sea, on the plains, which bears very large fruit." He received numerous visits from natives of the mountain, and being very successful in his ornithological excursions, he determined to explore the locality. For four metres of blue calico and four brass bracelets he rented a habitation, and above it displayed the Italian flag. "I felt proud that it was the first European flag that had been displayed in the interior of a country, even to the present day, nearly entirely unknown." The natives supplied him with yams, maize, and tobacco, for which he paid them with venetian beads, which is used as money, and which he had to husband, in order to pay the women and children for collecting insects. On the morning of the 13th, the corano and all departed, prior to which he observed they each took a string of grass, upon which they made ten knots, the meaning of which was, that they should not forget that in ten days' time a head-hunting expedition had been arranged to take place, and none should fail to attend the meeting. "But of the result I did not expect much, as I already knew that the Papuans were great talkers, but in the end they performed very little."

After a few days passed in enriching his collection of birds and insects, his provisions began to fail. His salt was finished, and he had only powder enough to procure birds, as specimens, and not to provide him, as hitherto, with food. As roasted paradise birds were delicious, this privation, and many others, he began to feel severely, in spite of the great interest of his pursuit. Some Papuans arrived on the day he intended to send to Dr. Beccari for provisions, and reported that the Arfaks, of Andai, had killed a man of Dorey, and one of the Arfaks had been wounded. He paid no attention to the intimation of one of the arrivals—that M. Beccari wished him to return—as he brought no letter; but a marked change in the friendly conduct of the natives was evident. He enquired the cause of the cries and lamentations he heard during the night, and he found they cried to the spirit of the man who had been killed, and to Setan (a Malay name)—the spirit of evil. He began to suspect that the evil spirit they wished to drive away might be himself—so regarded by them. After a day or two the corano arrived with a large number of followers, from Atam; but he was indisposed to send men to Dorey for provisions; and “my friendly position, with respect to my neighbours, was interrupted. Neither women nor children brought me insects, and soon refused to sell me yams or maize.” The corano informed him that fearing an attack by the natives of Soboe and of Morris—one tribe higher up, the other lower down the mountain—they intended to depart, and to destroy all the plantations. He offered to give him men to carry his baggage. “My position then became very critical; having finished all my provisions, except a little maize.” He promised to depart in five days if they supplied him with food, and men to carry his luggage, and that he would make presents to the corano and other chiefs; and to this they assented. He used to ascend a fig tree much frequented by various birds, and await for his victims. One day he could not understand the cause of a great noise among the natives, when at the foot of the tree he saw a young Papuan, making very animated gestures, that he was wanted at the house. “Arriving at the house, I found them armed and screaming out as if they were deranged. During the time they were shouting they shook their weapons, making hideous grimaces and contortions of the body. The women made as much noise as the men; and thus the *fracas* which was then taking place was something diabolical. David informed me that a great number of Papuans, from Morris, had come down from the mountain to hunt for heads among this tribe, and had surprised three very near the house; but they had escaped, seeing that the natives of Atam were prepared to defend themselves; but they were almost certain they would return with increased numbers.” He refused to depart until the lapse of the five days, although many of the women and children had departed. He then practised a little stratagem, to show his power to defend himself. He barricaded his house, and, in presence

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of David, prepared six ball cartridges, adding melted grease and some powder from his medicine chest, as well as chlorodyne. He worked slowly and methodically, without speaking, and David looked on in astonishment. "David, as I expected, left the house, and went and related everything he had seen. This is what I wished him to do. The consequence of this was that they thought I had poisoned the guns. The Papuans in general, and the Arfaks particularly, dreaded that the poison would be spread over the air, as they supposed by the smoke of my gun, and by this proceeding, that I had the power of destroying many people at once." David informed him of all this, and asked him if it was true, but he said no; as it is a peculiarity of the native character to believe the reverse of what you say. When descending the tree, he had lost a valuable diamond ring, and promised a great reward for its recovery. The Arfak Papuans then had recourse to a sort of incantation to find out where it had fallen. They cut up some leaves of the Pandanus, and "the invocation consisted in placing the pieces all together and forming with them different figures, that they changed from time to time, covering them with one hand, and uttering some words that I could not understand. They afterwards placed all the pieces between both hands, and blew upon them. Having completed the magic ceremony they departed to look for the ring. After a useless search they returned and resumed their ceremony, saying they had been deceived. They then renewed their search at another place. They are so convinced of the correctness of their '*cabal*' that they never doubt it; and now finding that they could not succeed, they reproached themselves at not conducting the ceremony in a proper manner."

With his valuable series of zoological specimens, rare and novel, he prepared to depart. "Without reckoning the little dogs, the large and small pigs, many of which were carried in the *nockins* worn by the women, we formed a company of about forty persons. The corano bore my flag, and walked first. I followed him. The air of the mountain had so improved my state of health, that although the corano walked rather quickly, I could keep pace with him." They arrived at the foot of Mount Putat, down a bed of a watercourse, and entered the level gloomy forest, and then mounted some small hills, when he heard the report of a gun, and thought that M. Beccari might be on his way to meet him with supplies, but he was disappointed. The natives lighted fires when they bivouacked for the night; formed themselves into groups, and sang pleasing and rather mournful songs when not chattering. "They all appeared, however, very happy; and seemed content with the sky for a roof, the ground for a bed, and simple fare to eat." The talking ceased, the fires burnt out, and all around was dark. The bats he saw busily engaged in capturing the mosquitoes, and heard "the fruit-eating bats, with their huge leathery wings, as well as the

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voices of the night birds far away, and which would be answered by others not far distant."

On the 1st October he reached Andai, to find M. Beccari had gone to Putat, and regretted not meeting him. He brought back the skins of 122 birds, many very rare, others quite new to ornithologists. He also found a new species of bird of paradise, in the vicinity of Mount Arfak, and profusely—as a naturalist—dilates upon its rich and brilliant variegated plumage. It is called by the natives Quama; and the male and female, unique specimens, which he secured, he transmitted to the London Zoological Society, by the mail steamer. "I think it is as well to mention that at thirty miles from the sea coast and at an elevation of 3600 feet, among sixty species of birds, at least fifty are confined to that region." Among his insect collection he regards a great number to be new to entomologists. He considers he has six or seven new species of bats. The mammalia are comparatively rare. Two or three species of cuscus; a marsupial, having a prehensile tail, used in suspending it from the branches, the skin and flesh is valuable; the former is very variable in colour, but generally of a whitish hue, spotted with red, brown, or black. A Papuan wild hog; a fruit-eating bat; two or three species of tree kangaroo; a species of squirrel; two or three species of mice, and an animal resembling a phalanger. "Vegetation is very luxuriant here, as elsewhere that I visited; but the Arfaks only cultivate yams, maize, tobacco, sugarcane and a few bananas. The climate is very mild, but humid; the rains being frequent, as well as dense fogs."

He points out that the Papuans of Arfak, were, in Mr. Wallace's time, much dreaded, but that intercourse with the Dutch missionary has somewhat civilised them, and in a short time they will not be feared. They have no religion, no form of worship, no idols, like the Papuans of Dorey and Mansinam; are very superstitious, believe in an evil spirit, but know nothing of a benevolent deity. They consider that, after death, the spirit of the deceased roams about the forest. They bury their dead near their houses, and renew, on the grave, every two days—perhaps for two months—provisions and tobacco. "These Papuans are generally very quiet in their manners, and are very affectionate one towards the other. Their moral conduct is very strict; the smallest children capable of walking are always as much clothed as the adults, and both men and women display much affection towards their children. The women work as well as the men; in general, they are more industrious in their habits than the Papuans of the plain, and the adjoining islands. Perhaps they are more compelled to labour, as their food consists of vegetables, which they are obliged to cultivate, and of certain tree-ferns which grow wild; they also use large snakes as food. Many families inhabit the same house, which is usually constructed of a very large size, the females taking the left, and the

men the right side. Every family have their own fire-place, where they may be seen, squatting down, when not at work, most of the day. There is a kind of platform above where they generally sleep during the night. The women do not take their meals with the men. Near the large house there is a small house erected solely for the use of the women during child-birth, and here they receive all the necessary attentions and presents from their friends; into this house no men are permitted to enter. Polygamy exists as a custom among them; but a wife costs so much, and is so expensive an article, that it is very seldom a man is seen with more than one. The villages in the mountains are very numerous, but the population in each is small. The language varies, and sometimes so much that the natives, in separate villages, do not understand the dialect, one of the other. Among the different tribes a great variety of type is observed, and it is seldom that one tribe intermarries with another. The Papuans of the mountains appear to have exceedingly good health, and they are rarely seen afflicted with any but cutaneous diseases; more especially one kind which is very prevalent among the natives of the plains, and called by them *cascado*. It appears, also, that they attain to a good old age—one man I saw was fully seventy years old. Epidemics are occasionally known, as I perceived some of them marked with small-pox. Dr. Bennett questions if this may not arise from the native pock. After these remarks it may be asked why there is not a greater increase of the population? One day I made enquiry of the Dutch missionary, who mentioned to me, speaking only of the natives of Andai, at foot of Mount Arfak—although what he relates of the natives of Andai may equally apply to those of Arfak—being averse to having large families, abortion is prevalent among them, and from this cause the mortality among the women is very great. During four years thirty women died at Andai, and only one man, who was accidentally poisoned."

We fear that our scant notes, when we depart from the language of M. D'Alberti, will do but bare justice to his lengthy and interesting narrative, so ably translated by Dr. Bennett. He terminates his essay thus: "Before concluding, I may ask whether the Papuans ought to be called savages, and why I should be told, yes, because they go about almost naked? because they have but few wants, and but little suffices to make them happy? If anyone will tell me that they are savages because they have no written laws, nor armies, nor priests, executioners, nor any religion—all of which forms our civilisation—then I assert, yes, they are savages; but very happy savages. But if we assert that they are ferocious savages because they prefer to lead an independent life, and to preserve in their houses the skulls of their vanquished enemies, as a symbol of their victory in battle, I must say, no; for, how, in this respect, can we be called civilised? when in one of our

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great battles from 40,000 to 50,000 men are killed; and while one skull is preserved by the Papuans, as a memento of their barbarism and cruelty, if it may be so called, we erect monuments of brass and marble, that will endure for ages, in commemoration of our cruelties. You say, again, they have no laws or religion. That is true; but when we read in history the excesses of which civilised people are capable, and review the revolutionary periods of European nations; when, for example, within the last century in England, 161 crimes of a very trivial character were punished by death; when in many cases, for high treason, the bodies were divided into four quarters, becoming the property of the king, and exposed in public places, and the heads—not so carefully preserved as amongst the Papuans and other savages—exposed on spikes to the public gaze—a measure adopted to still further civilise the people; when, in France, the bones of living men were broken upon the wheel, and others torn to pieces by horses; when, in all civilised countries of Europe, living men had their flesh torn to pieces by red-hot pincers, and others tortured by inventions unknown to most savages; others burnt alive, and other cruelties exercised in the name of religion, and for the glory of God!—I ask, in my turn, who may more correctly be termed savages? For my part, if there are any cannibals among the Papuans—although I certainly never saw or heard of any among them—I should prefer being killed and eaten by them, than to be suffocated, tormented, or roasted alive in the name of God in civilised Europe.”

CHAPTER VII.

RACES OF MEN INHABITING NEW GUINEA.

FROM “*The Colonies*” we glean that these consist of three, viz.: The Papuans, of which New Guinea is essentially the land, who have spread themselves over the Pacific Archipelago; but, although these are the most numerous and powerful, there exists in the unknown interior, a still earlier race, the true *indigenes* of the soil—the Alfourous or Horaforas—nearly identical with the Australian blacks, and who Mr. Lesson affirms, formed the aboriginal inhabitants of the Malay Archipelago. From the south-east coast of New Guinea, by way of Torres Straits, they crossed over to Australia, and there became wandering and scattered hordes.

A third race has, by recent discoveries, been brought to light particularly by Captain Moresby. They are comparatively light in colour, and occupy the south-eastern peninsula of New Guinea, east of Redscar Bay. These are the people visited by Mr. Egstrom as mentioned in another chapter. They are gentle and friendly, and the writer of the article regards Tonga as the region from which

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these light-skinned emigrants came. By Captain Cook they were styled Friendly Islanders, and are renowned as sailors in the central Pacific. They colonised the Fijian Archipelago, and could easily, before the prevailing east winds of those seas, have run over to the main peninsula, and then, spreading westwards, have gradually intermingled with the fiercer Papuans, as denoted by the variations in colour and physiognomy.

"The typical Papuans, or crisp-haired Austral-negroes, as they have been called by some writers, inhabit all the coast regions of New Guinea (excepting the extreme eastern portion,) extending westward over the adjoining islands of Mysol, Salwatty, Waigiu, and Key and Arru islands, where we find a certain intermingling of Malayan and other blood. Passing in an easterly direction across the Pacific, we find the same Papuan race, with some slight modifications, inhabiting the Admiralty Islands, New Britain and New Ireland, the entire Solomon Archipelago, and the New Hebrides, until it reaches its extreme eastern limit in the Fijian group, beyond which the Papuan is supplanted by the Polynesian.

"In the north-western parts of New Guinea the mountaineers are known by the name of Arfaks; they are fierce and powerful, and are always in a state of hostility with the coast tribe. The New Guinea Papuans are usually of average middle height; sometimes, however, they exceed that of Europeans; their limbs are well proportioned, and their figures often robust and athletic. The colour of their skin is black, or sooty-brown, never quite equaling the jet black of the negro. Their hair is very peculiar, being harsh, dry, and frizzly, in some cases almost woolly, growing in little tufts or curls to a considerable length. This they dress artificially into a huge compact mop, standing out on all sides, and constituting the Papuan's pride and glory. Their features are large and tolerably good, the nose, instead of being flattened like that of the negro, is aquiline, and descends so low that the tip almost reaches the upper lip. They are demonstrative in speech and action, impulsive, excitable, and restless, and display more vitality and intellect than the Malays, who are taciturn and unimpressible."

The New Guinea Papuan is far superior to the Australian black; and that they are capable of being civilised is demonstrated by the fact of the Papuans of Fiji, hopelessly cannibals twenty-five years ago, having abandoned cannibalism.

The Papuans of Arfak seem to have treated M. L. D'Alberty very kindly, and Dr. Mezer, a German naturalist, is said to have succeeded unarmed in crossing the isthmus between Geelvink Bay and McClure Inlet.

A Russian traveller, M. Miklucho Maklay, was put on shore, at his own desire, from a Russian man-of-war, at Astrolabe Bay, on the northern coast, accompanied only by a Swedish servant and a Polynesian boy; and he remained amongst the natives for a

whole year. He suffered no injury from them, nor did they attempt to steal any of his effects. On the contrary, when he was rescued by a vessel dispatched in search of him, the natives set up a sort of funeral dirge, accompanied with drums, at his departure—an honour of an exceptional character, usually paid to chiefs only.

Of the Alfourous, or *indigenes* of the unknown interior of New Guinea we know but little. Constantly attacked by the Papuans, who capture them for slaves, they are solely occupied in endeavouring to preserve themselves from their enemies, and escape the snares laid for them. The Papuans describe them as ferocious, cruel, and gloomy, possessing no arts, and seeking their subsistence in the forests. They make incisions upon their arms and breasts, and wear a stick or long piece of bone inserted through the septum of the nose, in both of which customs they exactly resemble the natives of Australia. They are also of the same smoky, black colour, with similar hair, features, and limbs. Their large flattened noses, with nostrils placed almost transversely; their thick lips and teeth of the whitest enamel, all characterise these people as possessing the same origin as the Australian *indigenes*.

Of the third ethnological division of these people “the Rev. W. Gill describes them as having a complexion nearly the same as that of the Samoans or Tongans; though in stature and physical strength they are inferior to the latter. The men are but slightly tattooed on their faces and necks; whilst the women are covered with exquisitely beautiful tattooing, that at first sight appears like some closely-fitting lace-like garment. They have well-built villages, each consisting of a simple long street, with a sort of council house, such as is met with in the Pacific Islands. They use stone adzes, formed of jade; and the women manufacture red pottery. The features of these people are good, and their expression agreeable—many of the children being decidedly pretty. The men wear their hair tied up so as to form a sort of chignon behind. Their clothing consists of light garments formed of *tappa* (cloth made from the bark of the paper mulberry tree,) and they are fond of ornamenting themselves with feathers, flowers, and shells. Captain Moresby speaks of the neatness and beauty of the terraced cultivation of these natives, covering the hill-sides of the country in many parts of the peninsula. It is further proof of their Polynesian origin, that many of the words used by the inhabitants of Redscar Bay are identical, or nearly so, with words used by the Tongans.” The writer thus concludes his interesting article:—“Here, then, are a people open to missionary teaching and civilisation, of a docile and hospitable nature, among whom Europeans might dwell in safety; occupying a most beautiful and fertile country, with mountains rising 12,000 to 14,000 feet above the sea, and presenting every variety of climate. It is among these interesting people, at the eastern end of New Guinea, that the first settlements must be established, if the Imperial Government

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should see fit to extend her Australasian possessions northward of Cape York." "The Dutch lay claim to all the western portion of the island as far east as 141° longitude; but up to the present time they have made no settlement on it. An expedition was in preparation a short time since to visit the north-west coast with a view to select a site for that purpose; but the unfortunate Acheen war, in which the Dutch have so long been engaged in Sumatra, has delayed such a movement for the present."

MEN WITH TAILS.—The enclosed extract of a letter from the Rev. S. Macfarlane, formerly of Lifu, and now of the New Guinea mission, has been forwarded to the *South Australian Advertiser* by the Rev. J. Jeffries, of Adelaide, who received it from Mr. Macfarlane:—"Somerset, Queensland, 18th March, 1875.—It is not at all likely that you have received the letter which I sent to you by Mr. Reynolds, per *Gothenburg*. . . . We are gradually extending our mission along the coast of New Guinea, and making our way into the interior, both at Port Moresby and in the gulf near Tanan, or Cornwallis Island. When at Port Moresby a little while ago we visited Fairfax Harbour, and also went over the range of hills behind the mission station, and travelled about five miles inland. From the highest hill we got a fine view of the country, and could see a distance of forty miles, but no sign of natives. . . . From Fairfax Harbour I got specimens of the different kinds of rocks I could find; but Mr. Aplin, the police magistrate here, who is a geologist, cannot discern any trace of gold in them. . . . We hear strange stories from the coast tribes about the fellows in the interior. One tribe, with long ears hanging down to their shoulders; another with tails, for which appendage they have to make a hole before they sit down."

MISSION STEAMER "ELLANGOWAN."—The Somerset correspondent of the *Brisbane Courier* gives the following information of her last trip:—"After a thirty-two days cruise, she returned to Somerset on 11th July. Her captain reported that he called at Yule Island, and landed stores for Signor D'Alberti, the Italian naturalist, who is camped there. He was much in need of them, having been living for some time on bananas and snakes. With some dynamite among the stores, the signor soon provided himself with a dinner, killing and securing at one shot 250 fish, many of them large. He had lost his boat, four of his native servants (New Britain men) having bolted with her, and was greatly inconvenienced in consequence, although a partial substitute in the shape of a New Guinea canoe had been purchased from the natives, with which he could paddle over to the coast of that land, about a mile distant. The signor complained of his poor collection of birds and insects made since his stay in those parts, and appeared much amused at the idea of the *Chevert's* intended visit, remarking they would soon alter their minds if his experience was in their possession. After a stay of one week at

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Port Moresby, the steamer proceeded south-east along the coast fifty-six miles to Hood Point, and interviewed the natives of the village of Ula, who were very friendly, although greatly astonished at the steam, and perfectly unable to comprehend the means of progression without oars or sails; exchanged some trade for fish and fruit, and on the second day headed back for Port Moresby, calling off the native village of Kapakapa, which is most ingeniously constructed on piles, half-a-mile from the shore, in two fathoms of water. This novel mode of construction is on account of the hostility of a tribe inland, who are termed bushmen by the Kapakapas. The bushmen possessing no canoes, are unable to reach the village. These people, after being induced to visit the steamer, could not be got rid of again until a thought struck the captain to order the engines to be moved, when they all rushed for the side of the vessel, and every 'man jack' of them jumped overboard."

It is to be regretted that the latest intelligence respecting the progress of Mr. Macleay's expedition is that it has become disorganised; that the vessel is on her way back to Sydney; that Mr. Macleay is coming back by the Torres Straits mail steamer; and that the scientific part of the expedition will proceed to New Guinea in the missionary steamer from Cape York.

CHAPTER VIII.

DISCOVERIES ON NEW GUINEA COAST BY CAPTAIN MORESBY.

HIS LECTURE before the Royal Geographical Society is thus abbreviated by the *Sydney Morning Herald*:—

"Lieutenant Mourilyan and I, with an engineer and seven men, started on 7th March in our steam-pinnace, with a whale boat in tow, loaded with fuel and provisions for a week. We left the ship in Dawson Straits, and, steaming to the westward, we passed close under the high volcanic mountains of Fergusson Island. The shore that we coasted was dotted with villages high on the hills, peeping through the sombre tropical green. Our appearance caused great excitement amongst the natives. They raced for miles along the beach inviting us to land, shouting their cry of surprise, 'Hoo-ee! hoo-ee!' Turning the western point of Fergusson Island we found ourselves at the entrance of a fine strait separating Fergusson from Goodenough Island. Both these islands, with their forests topped by bare grey peaks, are grandly picturesque objects, Mount Goodenough rising magnificently to a height of nearly 8000 feet. The sides of this great mountain are cultivated in patches to a height of about 2000 feet, gradually its woods give place to barrenness, and its summits stand bare and knife-edged against the sky. Mountain torrents dash down its ravines and flash out at times from their dark

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green setting like molten silver. Night now closing, we sought to anchor between a small islet and the shore; our draught of water was but twelve or fourteen inches, and yet we could obtain no anchorage; the channel was full of mushroom-coral, which rose like great pillars from a depth of twenty to thirty fathoms to within three or four inches of the surface, so close together that after many a weary trial, on the entrance of lovely coves and delicious-looking bays, we had to seek a precarious anchorage in twenty fathoms water outside these coral pillars, on which a dangerous surf was breaking. The natives then crowded alongside us; but we were weary and wanted to have our evening meal in peace, to obtain which we blew the steam whistle, and their consternation was absurd in the extreme; they seized their paddles and glided off into the darkness. We failed for want of fuel to circumnavigate Goodenough Island, but landed on it and found it the home of the megapode and exquisitely-plumaged birds.

“Passing back to Fergusson Island, we landed at a large village in Moresby Straits. Strangely enough, the men hid themselves, and an old lady, with a very pleasant face, paddled off to us in a catamaran; we gave her strips of red cloth, and she became quite friendly. When we landed, the married women alone advanced to us, the men appearing, but keeping back in evident timidity; but the presents distributed amongst the women soon brought the men about us, all anxious to exchange their stone axes for our rusty iron hoop. I visited their inland plantations, and found large enclosures well fenced in with bamboo, producing tropical fruits, yams, sweet potatoes, Indian corn, sugar cane, and sago-palm. The good feeling of these natives deserves particular mention; not only did they respect our position, but they helped us over our obstacles, showing us the best paths, and took care of our clothes when we bathed in their cool streams. Here, a mile from the beach, I saw large masses of coral rock cropping up at, perhaps, a hundred feet above the sea level, in close vicinity to volcanic cliffs. On Fergusson Island we discovered a number of boiling mineral springs, strongly alkaline. Other hot springs may exist here at the bottom of the sea, which would account for the absence of fish in the bays. The great Louisiade Reefs, hitherto deemed an impenetrable barrier between Australia and North-east New Guinea, present a wide open gateway, through which ships may safely pass from Australia to north-east New Guinea, and by a shorter course to China. This new route lies to the west of the Louisiade Reefs, and shortens the distance by about 300 miles, without increasing the danger. Eventually the trade with China will be carried on by this, the shortest route. Near Tasse Island the Louisiade Reefs sink from the surface to a depth of ten or twelve fathoms, and so continue for more than 100 miles to the west.

“On the north-east coast of New Guinea there is no outlying

barrier reef, but the mountains run down to the sea; then follows a shore reef, from which the plumb-line may be thrown into fifty fathoms of water. The coast-line is but little broken up, and affords but few harbours and anchorages.

Captain Moresby states:—"At Traitors' Bay, eight miles to the westward of Cape Ward Hunt, I had occasion to fire my first and only shot in self-defence. Three of our officers had strayed away from a wooding party, when, from the ship, we observed a party of seventy or eighty warriors land from their canoes, fully dressed in feathers and war paint, stealing on them. Sub-Lieutenant Shortland and I jumped into the dingy with some spare rifles, and gained the beach just in time to put our shipmates on their guard and give them the rifles. Hoping to maintain friendly relations, I advanced alone, armed with a rifle, but holding my arms over my head, towards the bush where the natives were lurking, quite concealed from our view. Suddenly they sprang from the bush to the open beach, and formed in two regular lines, ten yards in my front; the first line armed with spears, which they held quivering to throw, whilst they moved with a short quick step from side to side to distract our aim, guarding themselves with shields; the second line was armed with clubs. For some seconds I forbore to fire, hoping still to preserve the peace. Finding this hopeless, and that in another second I should be the target for fifty spears, I fired with a snap shot at the leading savage; the bullet pierced his shield and spun him round on his heel, but, glancing off, did not wound him. Immediately the whole body of warriors turned in consternation at the sound of firearms, then heard by them for the first time, and ran for the canoes. We followed till we drove them on board, firing a few shots over their heads.

"The meteorology of eastern New Guinea appears to be different from that previously supposed. The north-west monsoon blows from November till March, accompanied by occasional westerly gales. The south-east monsoon which follows we never found to blow continuously, for we experienced light variable winds and calms; whilst on the northern shores of eastern New Guinea the south-east monsoon appears to be altogether arrested by the lofty Owen Stanley Range, the summits of which, during the month of May, were observed with heavy clouds, leading us to believe that the monsoon was blowing strongly on the southern shores of the peninsula, whilst we on its northern side were sailing in calm water. The barometer showed little fluctuation, remaining between 29.80 and 29.90; the thermometer in the shade varying from 83° to 86°. The tides varied in rise and fall from eight feet to twelve feet. Varieties of race exist in this great island. The black Papuan inhabits the south coast of New Guinea, apparently from Cape Valsch to Cape Possession, in the Gulf of Papua. A hitherto unknown race, named Arfaks, inhabit the mountainous parts of the north-western; and the pure Malay race, from the isles of the Malayan Archipelago, has driven inland

the aborigines of the north-west coast. They are semi-civilised Mahomedans, professing Dutch allegiance. The fourth—our first visited race—is distinctly Malayan, but differs from the pure Malay, being smaller in stature, coarser in feature, thicker lipped, with less hair on the face, being almost beardless. The hair of the head is also more frizzled. They have high cheek bones, like the pure Malay; their noses are inclined to be aquiline; their eyes are dark and beautiful, with good eyebrows. Amongst them we met many men with light hair, and a particularly Jewish cast of feature. Their height is from five feet four inches to five feet eight inches. They are slight, graceful, and eel-like in the pliability of their bodies. This race abuts on the black Papuan, but no distinct fixed line of demarcation exists. This new race appears to inhabit the whole of the eastern peninsula of New Guinea, and also the newly discovered archipelago of islands adjacent. I approached these people with caution, but fortunately they greeted us everywhere with a welcome. We landed two or three only at first, making gestures of friendship. Soon they smiled and made responses to our signs; drew nearer and touched our white skins, turning up our sleeves and trousers to see if this amazing white colour held all through; and we gave them gifts, and soon got to bartering, in which they showed great honesty. The young women, some of whom were really pretty and graceful, were particularly curious about us; but if we ventured to touch their dark shapely limbs, they fled away with a start and a scream, and seldom returned. Their single evil propensity seems to be a love of pilfering; and it was amusing to see their skill in hiding small articles in the large orifice they make in the lobe of the ear, or between the tight ligatures they wear as belts and armlets on their skin. I believe these people have not any religious feelings. They certainly have no external form of showing any. One action only seemed to have a religious tendency—namely, their universal custom of bringing a village dog and dashing its brains out in our presence, after which they showed perfect friendliness. We noticed, also, that in every village an old woman, with ornaments and ropes of shell necklaces, seemed to hold authority. They bury their dead in the ground, and build small thatched huts over them, on which cocoa-nuts were hung. In some few cases these burial huts are rudely carved, and fenced in with a bamboo palisade, as if the resting-places of chiefs; but we saw no sign of chieftainship amongst the living. These Malays are a more civilised race than the Papuan; they possess the art of pottery, still unknown to the Papuans. In every village women may be seen moulding the clay, whilst others tend the wood fires in which the globed jars are baking. They are also better cooks, for they boil their food, as well as roast and bake it like the Papuans; and I have frequently enjoyed the dish they make of yams, taro, and mangrove fruit stewed in these bowls, with cocoa-nut shred finely over. As fishers they far exceed the Papuans;

the latter fish only with hook and line and the barbed spear, whilst the Malays make fishing nets of various sorts with great skill; one, like the English sein, made with the fibre of a small nettle-like plant; another is what I will call a 'trap net,' and consists of a netted bag, with the mouth kept open by a bamboo spring. It is let down with the bait in the bottom, the mouth open. The fisher, on feeling a fish, pulls a string which closes the bag, and draws it up with his prey. They have several kinds of canoes, of which the trading canoe is best, having topsides laced on with split bamboo, strengthened by strong knees inside, supporting a sort of half-deck, under which they stow their goods. They are ingenious basket-makers; they also make woven bags, and light rope and strong cord from various vegetable fibres. Their weapons consist of stone-tomahawks, clubs, and axes, and of spears, and heavy wooden swords, and hair slings; these weapons are not very effectively used. We rarely saw a wounded man amongst these people, and but few enemies' skulls ornamented the outsides of their houses. Their houses and those of the Papuans do not differ materially. They are built on poles twelve or fourteen feet from the ground, and consist of one large tunnel-shaped room, well thatched over. A pole, with notched steps, leads from the ground to a small landing place or verandah, behind which is the small opening leading into the interior. This verandah is the favourite lounging place of the family; and their implements of war, fishing, and labour are carefully hung round on the inside walls. They are successful cultivators of the ground, using stone mattocks for turning up the soil, preparatory to planting their yams and taro. Their food is very plentiful, and consists of fish, yams, taro, fruits, and pork on great occasions, with abundance of the delicious crabs, and they do not make any kind of intoxicating drink. This plenitude of food may have some influence in checking a desire for cannibalism, which certainly does not prevail largely amongst them. These people are affectionate to their children; they make toys, especially models of canoes and small spears, to amuse them. The little ones were constantly to be seen petting little pigs, with which they ran off at our approach. They had also multitudes of tame parrots, lorries, cassowaries, and kept several varieties of the marsupials in cages. In some cases the parents were willing to barter their children for iron axes. They did not keep their wives in the background, but allowed them to meet us freely and have a voice in the trading. On one occasion a husband was heartily belaboured by his wife with a paddle, because he did not barter satisfactorily, and his friends shouted with merriment. Nevertheless, the lot of the women here is to do all the heavy labour, whilst the men fight or fish. The men are but slightly tattooed, but the women tattoo all over. The men paint grotesquely with ochres, and sometimes shave the head, and paint it and the whole body with charcoal and cocoa-nut oil. The women crop their hair short, the men wear

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theirs long and frizzed, and all disfigure their mouths with chewing the betel-nut, except the younger women. The men wear a waist-cloth only; the women the usual South Sea garment, the short grass petticoat or 'ti-ti.' A New Guinea exquisite—lithe, dark, and graceful, with shell-anklets, making his small feet seem still smaller—is not an unpicturesque object. His waist is braced in with many turns of black cord, the outside of which is plaited in with gold-coloured straw; his neck is bright with a red shell necklace, from which a boar's tusk depends; and from the tight ligatures and bracelets on his arms the graceful pandanus leaf flows far behind, curiously embroidered. Bright red flowers and berries adorn his hair, and his face is frequently painted red at one side, and black and white at the other. The only maladies we perceived amongst them were elephantiasis, ulcers, leprosy, and other skin diseases; otherwise they were vigorous and healthy."

CHAPTER IX.

TERNATE—TIDORE—BANDA—CELEBES—SULU ISLANDS—

PHILIPPINES — BORNEO.

MOLUCCAS.

FORMERLY, this appellation referred to five islands west of Gilolo, viz., Ternate, Tidore, Mater, Makian, and Bakian; "but the sovereigns of the Moluccas having possessions in Gilolo, Ceram, and other islands, these are called the Great Moluccas." All the islands situated east of Borneo and Java, and south of the Philippines, are regarded as the Moluccas; as trees bearing exquisite spices are diffused over the whole of them. The earthquakes, which are frequent and dreadful in the Molucca Archipelago, render the navigation dangerous by the formation of new, and the disappearance of old sandbanks.

"In 1862, after 215 years of quietude, the crater on the island of Makian blew up, as if some millions of tons of blasting powder had been exploded within it, destroying thousands of industrious and prosperous people, and quite changed the face of the island." A great number of volcanoes are in a state of activity; others are extinguished.

SPICE TRADE.—The Chinese accidentally landed in the middle age and discovered the clove and the nutmeg; whereupon a taste for the same was diffused over India, and thence extended to Persia and to Europe. The Arabians, who then engrossed the commerce of the world, came hither in numbers, followed by the Portuguese, who, in 1521, under Antonio de Brite, appeared in force, for the purpose of taking possession of the Molucca Islands. After

tyrannising over the native sovereigns for sixty years, the Portuguese were driven out by the Dutch, with the aid of the natives, and the Dutch became as rapacious and cruel as their predecessors. In 1606 the sultan of Ternate, fruitlessly attempted to league the native princes to expel the Dutch, who, in 1613, obtained from them the exclusive right of buying the cloves; and this compact led to the country being invaded and desolated for seventy years, the natives eventually being subdued, after fighting bravely. At times avarice induced the Portuguese and English to interfere. "The English, at one time, were allowed to have a mercantile establishment at Amboyna, when held by the Dutch; but the latter, in 1623, after forcing some Chinese and Javanese soldiers, by torture, to make confession of a plot on the part of the English, seized on the whole of the English residents and put them to death, with circumstances of indignity and cruelty sufficient to disgrace any barbarians."

In 1680, after completely crushing the natives and all opposition, they rigidly carried out their commercial policy; after Governor Vlaming had strangled, broken on the wheel, drowned in the sea, and beaten to death with bludgeons, people, nobles, and priests, by dozens at a time. Cinnamon cultivation was confined to Ceylon, that of cloves to Amboyna, and that of the nutmeg to Banda Islands, all Dutch possessions; when, in 1778, the plantations in the last-named being destroyed by an earthquake, the company allowed the nutmeg as well as the clove to be cultivated in Amboyna. Mr. Crawford states, the price paid to the cultivators for cloves was 3½d. per lb., nearly eight dollars per pecul of 133½ lbs. "When the trade was conducted by the natives, it even sold in Java at an average of fourteen dollars per pecul. When the article arrived by a difficult and hazardous land carriage to the Caspian Sea, it cost ninety-one dollars; at Aleppo, 141 dollars; and in England, 237 dollars. Since the close monopoly of the Dutch, i.e., 1623, the price paid for cloves to the Dutch on the spot, has been eight times the price paid by them to the cultivator. When brought directly to England they are sold at an advance of 1258 per cent. on the natural export price."

With respect to nutmegs, "the natural price of the article should not exceed four dollars per pecul, or 2½d. per lb., and in Europe sixpence; but generally it is twelve times that amount, and in England with duty seventeen times." The consequence of the Dutch policy has been that less nutmegs and cloves are consumed at the present date—when the people of Europe are wealthier, more luxurious, and more numerous—than in the middle ages. Black pepper, largely cultivated in Sumatra, Singapore, and Java, has, in a great measure, taken their place.

CLOVES.—The clove tree grows to forty or fifty feet in height, and has long pointed leaves like those of the laurel. It throws out a profusion of leaves at the commencement of the wet season, and in four

months the clove is fully formed. At first it is of a green colour, assumes a pale yellow and then a blood red; it is then fit to be used as a spice, but to ripen sufficiently for purposes of propagation, it requires three weeks longer. It was originally confined to the Moluccas, chiefly to Makian. Before the Dutch arrived it had been conveyed to Amboyna; but it does not grow well in Gilolo, Ceram, Bouru, or Celebes. At Amboyna the tree does not bear till the tenth or twelfth year; in the parent country, in its seventh or eighth.

NUTMEG.—In general appearance it resembles the clove tree, but is less pointed at the top, and more spreading. Its leaves are like those of the pear tree but larger, dark green on the upper surface and grey underneath. The flower is small and white; the fruit, in form and colour, resembles a nectarine. "When ripe, it resembles a ripe peach, and bursting at the furrow, discovers the nutmeg with its reticulated coat; the mace of a fine crimson colour. Within the mace is the nutmeg, enclosed in a thin shell of a glossy black colour and easily broken. The cultivation is nice and difficult. The best trees are those produced by the seeds voided by the blue pigeon, called the nutmeg bird, by the excrement of which its growth is much facilitated. It grows to about twenty or thirty feet in height."

"In this part of the world are several minor well-known spicy productions, which are found in no other country—massoy bark, used for culinary purposes by the Malays. The leaf of the cajeput tree also yields an essential oil, highly esteemed."

TERNATE, a Dutch residency, is the fourth of a row of five volcanic islands—the Moluccas—which skirt the west coast of Gilolo; and is equal in height, 4000 feet, to Tidore, another conical mountain next to Ternate. Mr. Wallace describes it as truly tropical and highly fertile—"the lower part of the mountain, behind the town of Ternate, is almost entirely covered with a forest of fruit trees, and during the season hundreds of men and women, boys and girls, go up every day to bring down ripe fruit. Durians and mangoes, two of the very finest tropical fruits, are in greater abundance at Ternate than I have ever seen them." The ground is cultivated for 2000 or 3000 feet all up the mountains. The sultan of Ternate is pensioned by the Dutch government, and he rules only over the native population, and over the northern portion of Gilolo. "The sultans of Ternate and Tidore were once celebrated through the east for their power and regal magnificence;" and after describing how the sultan of Ternate was attired in rich cloth of gold, adorned with a diamond, emerald, ruby and turquois, when Drake saw him in 1579, he remarks, "All this glitter of barbaric gold was the produce of the spice trade."

BANDA ISLANDS.—Banda is a Dutch Residency, and the principal island; this is a small and distinct volcanic group of ten isles, situated south-east of Amboyna, "the clove islands," between latitude, south, 3° 50' and 4° 40'. These are all subject to earthquakes.

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The island of Banda is mountainous, and an impenetrable bamboo forest occupies the whole interior. In 1512, a Portuguese discovered the group, inhabited by Malays; and the Portuguese established a settlement in 1524. The Dutch drove them out in 1599, and nearly extirpated the natives also. In 1810, the British captured all these and the spice islands, but in 1814 magnanimously restored them to the Dutch. Under this residency are Ceram, Goram, Key, and Arru Isles, and in general all the other little islands east and south of Banda.

CELEBES.

CELEBES.—Crawford estimates this island to contain 55,000 square miles. It is situated east of Borneo, from which it is separated by the Straits of Macassar; and west of the Moluccas. On the north is the Celebes Sea, which separates it from the Philippine Islands. On the south are Flores and Timor. "The sultan of Ternate possesses the whole of the north coast of Celebes; and the governments of Macassar—on the south-west coast of Celebes—and Banda, both Dutch residencies, share with each other the Timorian chain." The Dutch term these countries—governed from Batavia, the capital of Netherland India—"De Groote Oost," "The Great East."

BUGIS TRADERS.—This is their native country. They resemble the Malays, but in honesty and energy of character are far superior. "The commercial enterprise of these modern Phœnicians is unequalled in any part of the world; every soul, male or female, from the prince to the peasant, being engaged in trade." They undertake arduous voyages, and take to Singapore the produce of the various islands.

THE MACASSARS are another section of the inhabitants. Hindooism exists in a limited degree, but the Mahomedan faith has been firmly established for two centuries.

PRODUCTIONS.—Rice and cotton abound, and the clove and nutmeg grow, as well as the sago palm. The ebony, sandalwood, and calambac, are valuable woods exported. There are deer, boars, elks, and antelopes; but no elephants, nor tigers. A large species of serpent destroys many of the monkeys, of which there are an infinite number, very strong and mischievous. The cattle have a hump on the back, and there are buffaloes, goats, and sheep; and on the eastern coast turtles abound, which are valuable for the sake of the tortoise-shell.

GOVERNMENT.—The northern provinces contain 270 large villages, and the whole northern and eastern shores are the territory of the sultan of Ternate; which can furnish 17,000 soldiers, and is divided amongst a number of vassal princes.

VOLCANOES.—There are several in a state of activity. "Numer-

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ous rivers fall in broken cascades, at the feet of immense rocks, in the midst of majestic groups of picturesque trees; and the bold, broken, and verdant coasts, present some charming landscapes."

MACASSAR is a fortified town belonging to the Dutch. It is situated on a point of land watered by two rivers.

BONTHAIN is on the south coast of the Bay of Bonthain, and adjoining it is a Dutch fortress.

GORONTALU is a Dutch settlement on the Gulf of Tomini, a country abounding in buffaloes.

Bell states:—"The northern peninsula, from the isthmus to the district of Bootan, is full of gold mines." On the east coast is a savage race, "Badshoos," chiefly spending their time in fishing boats.

MENADO is a Dutch settlement on the north-east coast of Celebes.

SULU ARCHIPELAGO.

SULU—pronounced SOOLOO—ISLAND, the vowels having the Spanish pronunciation. According to Bell, great quantities of *ambergris* are cast upon its shores towards the end of the western monsoons. During the calm which succeeds, the pearl fishery yields much wealth, "the sea then being so clear that the eye can discern objects under water to the depth of forty or fifty feet." The sultan of Sulu has a small fleet, and holds several islands. "Bowen, his capital, is situated on the north-west part of the island, and has (had) a population of 6000 souls."

The name of this archipelago reminds us of a tragical circumstance which occurred about October, 1852, and of which intelligence was conveyed to Singapore by H.M. war steamer, then in those seas; we think it was the *Pluto*. At this time we were the guest of Mr. John Jarvie, of the firm of Messrs. Hamilton, Gray & Co., and residing on a nutmeg plantation near Bukut Timah. We galloped into town one morning to learn that the utmost excitement prevailed, owing to the intelligence just to hand that Mr. Burns—grandson of the poet—hailing from Singapore on a trading expedition, had, with the captain and crew of his vessel, been ruthlessly murdered in these seas by pirates. It appears that, in the guise of traders, they came alongside the schooner, desirous of bartering; but Mr. Burns refused to allow them to board the vessel that night. The next morning they were permitted to do so. On deck was exposed a roll of matting, which Mr. Burns, sitting down, was examining, when, at a preconcerted signal, one Malay drew from the roll of matting a kriss, and with it, at one blow, nearly severed the head of Mr. Burns from his body. The captain and crew jumped overboard, and were pursued and speared by those in the boats alongside; whilst the pirates on board remained masters of the vessel. This they took to Sulu, whereupon the sultan—whose subjects they say had been punished for piracy by Sir James Brooke—recognising the

vessel as that belonging to Mr. Burns, at once apprehended the murderers, who had fled from the vessel. The sultan then sent word to the war vessel in the locality, which towed the schooner and took the pirates into Singapore Harbour. They were tried, and we think executed after our departure.

For some time prior to this occurrence, a controversy had been pending as to the justice of Sir James Brooke coming across a fleet of piratical prahus—and destroying some hundreds of men. Some persons asserted these to be peaceable fishermen—although formidably armed; and there were two parties in England and in Singapore, for and against Sir James, whose conduct was brought before Parliament; but this was triumphantly vindicated by Lord Palmerston. We heard it remarked at the time, as a singular fact, that he whose head had been decapitated, and whose crewless vessel had been brought to port, had figured as one of the most important witnesses used by those adverse to Sir James Brooke's proceedings. How soon did he become a victim to his own fatuity!

UP THE SULU SEA, all the way to Manila, the eye feasts upon the most charming scenery—mountains, promontories, bays, all richly clothed with ever-constant verdure of the brightest tint. Near to Sulu, on the north-east, is Zamboanga, on the south-west coast of Mindanao, where we landed on our voyage from Manila, to take in fruits and fowls; and so strong was the current—several miles per hour—that, to board the vessel again, we had to pull twenty miles.

An excellent essay upon this archipelago lately appeared in the *Argus*; and which affords a truthful and vivid picture of the locality along which we sailed for days. From the researches of the writer, we learn that the Sulu Islands—between Mindanao and Borneo—number several hundreds, of which Palawan is the largest; and this is under the government of the Philippines. All are highly volcanic, and there are “immense tracts of the most fruitful soil, brooks, streams, rivers, lakes, on all sides; mountains of minerals, metals, marbles, in vast variety; forests, whose woods are adapted to all the ordinary purposes of life; gums, roots, medicinal plants, dyes, and fruits, in endless variety. In many of the islands, the cost of a sufficiency of food for a family of five is only a *cuarto*, a little more than a farthing a day. Some of the edible roots grow to an enormous size, weighing from fifty to seventy pounds—this we can ourselves confirm—gutta-percha, caoutchic gum-lac, gamboge, and many other gums abound. Of fibres, the number of species is countless; and, in fact, the known—and unknown—wealth of the island only requires fitting conditions for its enormous development.”

The seas abound with every variety of fish. “There are numerous banks of the pearl oyster lying visible beneath the transparent waters, whose depths no diver has ever yet sounded. Gold is found in abundance, both in the mountains and in the rivers; and gold dust in the usual form of currency is used in Mindanao. Iron, quicksilver,

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copper and coal, are known to be abundant." These islands are said to number over sixty, and to contain a population of over 150,000 persons.

The writer points out that plantations of tobacco, or cocoa, would prove as profitable, and could be as easily cultivated as an indigo plantation in Ceylon, or a tea plantation in Assam—which tea, by the way, we learn is now more highly prized than China tea—rice, coffee, sugar, all thrive most luxuriantly in the Philippines; upon the immediate confines of which we are now treading, leaving us but little to say respecting them, so similarly constituted are they to the Sulu Isles.

PHILIPPINE ISLANDS.

These number about 1200, of which 400 are of considerable size. In 1521 they were discovered by Magellan; and in 1560 the Spaniards established themselves here. A chain of lofty mountains traverses them; earthquakes and violent hurricanes oftentimes devastate the face of nature. "A humid climate preserves the appearance of perpetual spring throughout these islands; the trees are always in leaf; the fields almost constantly ornamented with flowers; and the blossom and the fruit are often exhibited together on the same tree. Cattle are numerous; and the numbers and variety of fish are amazingly great." For ages one Spanish galleon of 1200 or 1500 tons, used to carry on the trade from Manila to Acapulco, in Mexico. "She used to sail in July or August, with a cargo consisting of the manufactures of China and Hindostan, and the produce of the Spice Islands, and arrived at Acapulco in three or four months. The voyage back was performed in about half the time, with a cargo of cochineal, cocoa, Spanish wines, oil, wool, and bar-iron."

MINDANAO is the most southerly of the Philippines, and lies between latitude, north, $5^{\circ} 30'$, and $9^{\circ} 40'$; and between longitude, east, $121^{\circ} 40'$ and 126° . Its length is 250 miles from north to south. There are twenty navigable rivers, and several large lakes. The inhabitants on the coast are Malays, those in the interior are fierce savages, Papuans. The former are divided into Mindanaos, governed by a sultan; the latter under a confederacy of 172 rajahs. They are Mahomedans, lively and intelligent, but fierce and vindictive. The population was over 1,000,000. The Dutch visited the island in 1607, in 1616, and in 1627. It is now divided into three districts or alcalds: Zamboanga, on the south-west; Mesamis, on the north; and Caraga, on the east.

MANILA, the capital of Luzon, and of the Spanish East Indian possessions, the largest island of the group, lies in latitude, north, $14^{\circ} 38'$,—the centre of the island—and longitude, east, $120^{\circ} 50'$; and here resides the Captain-General, who herefrom rules these islands. The island is 120 leagues (360 miles) in length, from north-west to

south-east, and thirty-five or forty leagues in breadth, "having China on the north; Japan on the north-east; the ocean on the east; others of the Philippine Group on the south; and to the west Malacca, Siam, and Cochin China." A chain of mountains intersects the whole island, which is highly volcanic, subject to fearful earthquakes and to hurricanes, which commit great devastation. "The soil is exceedingly fertile, and produces cotton, indigo, sugar, rice, tobacco, and coffee, with little labour." Cattle are numerous, and run wild; and deer abound in the forests. The aborigines reside in the mountains, whither they have been driven by the Malays, who inhabit the coast of the latter; one of the principal tribes is the "Tagalas." "The Chinese have, at different times, been attracted to Manila in great numbers by its profitable trade. In 1603, the Spaniards, jealous of their commercial wealth and enterprise, massacred 25,000 of them. In 1639, having again increased to 30,000, they dared to take up arms in their own defence, and a contest ensued in which their numbers were reduced to 7000. The same feeling of jealousy prompted the expulsion of these industrious people in 1652, 1709, and 1751 respectively; but when the public began to suffer from the want of supplies and trade, the measure was bitterly complained of; and no governor has since renewed the experiment."

Manila is situated upon a large bay on the south-east side of Luzon, at the mouth of a river. Up this river—the Passig—we once went, sleeping in boats, paddled all night by Indians, to the lakes, forty miles distant, on a fortnight's shooting excursion; visiting all the villages around it. So extensive and rough was the lake that we became seasick thereon. The elevated lands, precipices, the bays, and inlets clothed with the ever sapgreen tint, presented the most glorious scenery the eye ever beheld.

As we have before observed, the limits of this book preclude us from attempting to give but a cursory glance at these countries; but, for the edification of commercial men, we shall notice the manufacture of cigars.

MANILA CHEROOTS AND IMITATION HAVANNAHS.—All the tobacco grown in these islands must, according to law, be sold to the government at its own fixed price; and a cigar manufactured by an individual is *contrabandista*—contraband, or smuggled—subjecting the offender to penal servitude.

Desirous of observing the said manufacture, from the "Intendente" we obtained an order to go over the factory; arrived thereat, we presented our order, and with a file of the guard—two before, armed, and two behind us, under the command of an officer, we marched over the works. This immense wooden building then contained 9000 women—we learn that many thousands more are now employed—and most deafening is the incessant noise caused by stamping the leaves open on a board. At a low table the women sit cross-legged. They

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are Indians, of various hues of copper; their very long black hair being done up with huge brass pins. They wear a chemisette close up to the neck with wide sleeves, and around the body is a "sarong," i.e. a piece of coloured calico, wound around many times and tucked in tight, exhibiting the graceful contour of the human form divine; even better than the present fashionable ladies' habiliments—the tightness of which makes them shuffle along, as they cannot take any stride. They wear no stockings, and only slippers embroidered with gold or silver wire, in which all classes can gracefully waltz on their toes, the slippers being firmly grasped by the great toe of either foot. At every table may be six girls, and an elderly dame at the head; alongside each are two piles of tobacco; large leaves for the outside, and wrinkled tobacco for the inside—unadulterated. The girl opens the leaf, beats it with a stone, spreads from a small pot a little paste of rice, inserts the fillings, and with a rapid turn of the wrist the cigar rolled on the table is made in a few seconds. Then comes along a woman with a basket and a pair of scissors; she takes up each cigar, measures and clips either end, and puts them away, ten in a bundle. They are then taken to the packing room, and placed in boxes of 1000 and 500 each.

A merchant wishing to fulfil an order, merely sends up to the factory for the required quantity; he cannot pick nor choose. The boxes are sent down to him, and at his store he puts them up in cases of 10,000 each; but immediately after we quitted Manila, so great was the demand for Australia, that, as the cigars could not be manufactured to supply the full demand, the government auctioned them periodically, instead of selling them at the fixed price. Whether such be the case now we know not. It is a fallacy to suppose that one merchant can obtain a better quality of cigar than another; as having been a large importer we are now writing from experience. This year's crop of tobacco—like wheat—may be better or worse than that of last year. Upon the subject the government will not deceive any one. As every man and woman smokes, the government throughout the island have licensed shops in order to supply cigars, and it will permit no exportation until these shops are supplied; as otherwise a revolutionary spirit might be engendered amongst the poorer classes.

BISSAY ISLANDS.—The most important of these is Zebu, which lies between Manila and Mindanao; and here a large quantity of sugar is produced.

CALAMIANES.—This group lies south-west of Mindoro, between it and Palawan. These, as well as Palawan, are subject to the Philippine government.

BORNEO.

BORNEO, the largest island in the world, excepting Australia and New Guinea, lies to the north of Java, west of Celebes, from which it is divided by the Straits of Macassar, and south-west of the Philip-

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pine Islands. It is situated between latitude, north, 6°, and latitude, south, 4° 20'; and between longitude, east, 109° 5', and 119° 20'. "It is 850 miles long, from north to south, and 680 miles in breadth, from east to west. The main mass of land, however, is south of latitude, north, 2° 30', and is about 550 miles in length, by 450 in breadth. That portion north of this is a peninsula extending north-east, and is 300 miles long, by 120 broad. Thus the area of the island has been computed at 280,000 square miles. Magellan saw it in 1521, and named it Bruné; but in 1530 the Portuguese gave it the present name, Borneo."

DUTCH SETTLEMENTS.—The Dutch claim to govern about half the island, and have established three residencies, enumerated below, at each of which resides an officer or governor, termed a resident, who rules his district, subject to instructions from Batavia.

SAMBAS RESIDENCY is on the west coast, south of Sarawak, in latitude, north, 1° 13'.

PONTIANAK RESIDENCY is also on the west coast, about ninety miles south of Sambas, and is in latitude, south, 0° 2'.

BANJAR-MASSIN RESIDENCY is on the south coast. "The Dutch Government," Bell observes, "are at present in possession of most of the western coast of Borneo, and have united their ports there under the name of the Residency of the West Coast of Borneo. These acquisitions have been made by treaties with the native princes since 1818. The general principle of these treaties is that, in consideration of the ports being placed under the immediate control of the Netherlands Company—a company similar to our East India Company—and of the sultans of Sambas, Monedawa, Pontianak and Matan, not negotiating with other European Governments or Americans, and using their endeavours to repress piracy—these princes shall be paid a monthly salary by the Dutch." The affairs of some of the chieftains are administered by the Dutch, who share with them the revenues.

In 1643, the Dutch erected a fort at Pontianak, and in 1748, they compelled the Prince of Tatas to grant them the exclusive privilege of the pepper trade in his dominions. In 1706 the English were permitted to build a factory at Banjar-Massin, but not conforming to native customs were soon expelled therefrom. In 1747, the Dutch established a factory here, but in 1809, finding it profitless, sold the forts and buildings to the sultan. When Java was captured by England, in 1811, the latter also established a factory here—as on Dutch territory—which, with Java, was restored subsequently, and is continued by the Dutch to the present day.

STATES.—Borneo is divided into a great number of independent states, whose chiefs, Mussulmen, have the title of rajah or sultan; of these, the States of Borneo, Sambas, Succadana, and Banjar-Massin are the principal. "The interior contains chains of lofty mountains in the centre, shelving down to level and alluvial tracts

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along the shore. The principal chain is said to extend north-west by south-east, not far from the east coast. It is well-watered by fine rivers, and the interior is covered with immense forests filled with wild animals." Borneo had once a considerable commerce with China. The most considerable portion now is with Singapore.

BORNEO PROPER.—This state has a sea-coast of 700 miles by a depth of from 100 to 150. On the west it has the Dutch Residency; on the east the Bornean territory of Sulak. "On the south are various savage tribes, who take a delight in decapitating strangers, and glory in hoarding their skulls, which are handed down to posterity as heir-looms of the family, and trophies of hereditary renown."

BORNEO CITY, in latitude, north, 5°, on the north-west coast, is situated fifteen miles up the river so called, which is navigable for vessels of 300 tons for twenty miles; and to this state belong the islands of Malaweli, Bangi, Balambangan, on the north—twice a British settlement—Balabak and Babullan, containing several fine harbours. The city is built upon posts from one to two fathoms in height, on the banks of the river, within high-water mark; and each house is connected with the other by a single plank.

SAMBAS, on the north-west coast, is south of Sarawak. This state is situated about thirty miles up the river of that name. It is built of timber and bamboos upon stakes; and was once a powerful state, solely devoted to piracy.

STATE OF BANJAR-MASSIN is situated on a large river on the southern coast, and owes its prosperity to its position. The sultan resides at Mortapara, about three days' journey up the river. The population consists of Javanese, Bugis, Macassars, and Malays; and the Chinese are numerous. "There is scarcely a river or creek on the south or the east coast of the island which is not occupied by a settlement of Bugis," who annually take to Singapore cargoes of considerable value.

STATE OF SUCCADANA, was anciently the most powerful on the west coast. It is now in the hands of the Malays, and is seldom visited by Europeans.

PONTIANAK, is a considerable state on the west coast.

GOVERNMENT.—The sultan of Borneo is a Malay prince, but his Malay subjects do not constitute one-tenth of the population. They seem to have come from the interior of Sumatra to the west coast of Borneo, and thence to the north coast. This event took place about 580 years ago, before the Borneans had adopted the Bornean creed. The government is hereditary and despotic. The sultan has a council, ministers, and subordinate officers. There are thirty or forty Pangerans, or hereditary governors, rendering the government a sort of aristocracy. In the interior are numerous barbaric tribes, differing from each other in language, and ever in a state of hostility. The population of the island, in 1849, was estimated at 3,000,000. The

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inhabitants along the coast are chiefly Malays and Chinese, the latter numbered 125,000. The sultan of Borneo, in 1849, was said to be "a liberal and enlightened monarch, the best that ever filled a Bornean throne; one who loves justice, and hates oppression; speaks Chinese fluently, and settles all disputes in person, between his Malay and Chinese subjects, which has had the best effect, and terminated all those feuds formerly so frequent."

BALAMBANGAN (AN ISLAND).—Mr. Earl states that the north-east coast of Borneo was ceded by the Sulus to the British, and upon Balambangan a settlement was formed by the East India Company in 1774, but the settlers were driven away by the Sulus. "It is much to be regretted that the British establishment was not sufficiently powerful to resist so contemptible a force; for from the extreme richness of the products of the north-east end of Borneo, and from its favourable position in a commercial point of view, the settlement, had it been continued, must by this time have become of great importance."

LABUAN is an island off the north-west coast of Borneo, in the direct route from Singapore to China. In 1847, Rajah Brooke returned to Sarawak, having been appointed by the Queen governor of Labuan.

NEGRILLOES.—This is a race who reside in the most inaccessible parts of the island, and have no intercourse with the surrounding population.

DYAKS.—The greater part of the interior is occupied by this native race, which closely resembles the inhabitants of the interior of Sumatra. They cultivate the ground, are industrious fishermen, and some collect gold. "All accounts agree, however, as to another truly savage custom they have, by which every man is debarred from the privilege of matrimony, until he has, with his own hand, cut off the head of an enemy." They, consequently, go (or did a few years ago) on head hunting expeditions amongst their neighbours, whom they entrap in various deceitful ways. "When a married woman dies, her husband is not allowed to take a second wife, until he has slain an enemy in battle, and offered his head in sacrifice to the 'manes' of his deceased wife." Mr. Earl mentions that an Armenian gentleman visited a Dyak village, a short distance above the Borneo Proper country, "and describes the house of the chief as being a perfect Golgotha, decorated with at least five hundred human skulls, which had descended from father to son for many generations, each having added his share to the hoard. Rice and pork are their chief food, to which, wild animals, and birds, brought down by their blow pipes, are sometimes added.

"The Dyak countenance is extremely prepossessing, more so than that of any people I have yet encountered. The countenances of the Dyak women, if not exactly beautiful, are generally extremely interesting, which, perhaps, is in a great measure owing to the soft

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expression given by their long eyelashes, and by their habit of keeping their eyes half closed. In form they are unexceptionable. The Dyaks are of middle size. Their limbs are well rounded, and they appear to be muscular. Their foreheads are broad and flat, and their eyes, which are further apart than those of Europeans, appear larger than they really are, from an indolent habit of keeping the eye half closed. Their cheek bones are prominent, but their faces are generally plump. Their features altogether bear a greater resemblance to those of the Cochin Chinese than of any other Eastern nation."

SARAWAK is situated on the north-west coast, near Point Appi, and the province extends between latitude, north, 1° and 2°, and between longitude, east, 109° 40', and 111° 40'. The chief river is Sarawak, upon which the capital, Kuching, is built.

RAJAH BROOKE.—In the year 1838, Mr. James Brooke, an independent gentleman, in his armed yacht, the *Royalist*, with a picked crew of twenty men, went roaming about the eastern seas investigating the systems of government in the different islands, and counselling the rulers to suppress piracy, then so prevalent in these seas. This was not carried on as by the buccaneers of old, for these Malay pirates in fleets of hundreds of armed prahus, were in the habit of attacking any Chinese or native vessel, aground or in other distress, when they gave no quarter to anybody; and it was a common occurrence for a small community of Malays peacefully residing on the shores of an island, to be attacked and carried off into slavery, men, women, and children, during the absence of the vigorous male portion of the community, who had gone on a fishing or trading excursion. The rajah of Sarawak, then reigning, was a well-disposed man, and Mr. Brooke found him busily engaged in endeavouring to stamp out the pirates, then infesting his coast. He received Mr. Brooke very kindly, and permitted him to go inland and search for minerals—when, it is said, he discovered the famous antimony mines in the neighbourhood; and this was the commencement of the friendship which arose between them, eventuating in the rajah abdicating in favour of Mr. Brooke; whose bravery, energy, and monetary resources, he saw would alone be able to crush the piratical hordes daily becoming more insolent, and with whom he could not effectively cope.

Mr. Brooke departed, but, in 1840, returned to Singapore, whence he sailed again for Sarawak, and found the rajah engaged in the interior in subduing some plundering tribe. He afforded him such material aid with men and arms, as readily to subdue the insurgents. In gratitude, and in order to benefit his people, so continually oppressed in one district or another by the sea robbers and insurgents, the rajah offered to abdicate in favour of Mr. Brooke, who, in 1841, was in due form installed as rajah. Rajah Brooke then built a court-house, established a court, exerted himself in

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repressing piracy on the coast, and in curbing the rebellious tribes in the interior. All the dues levied upon the cultivators of the soil were expended, not upon luxuries for himself, but to develop the resources of the country by making roads, and establishing a settled form of government, adapted to win the hearts of all classes. So effectually did he carry this out, that the small communities residing on the shores of adjacent lands removed to and settled in his territory—assured of safety for their lives and property. Thus did Sarawak increase, and is continuing to increase in importance. A few years ago, this benevolent man, full of pure and devoted love to benefit his species—untutored savages—died.

The present rajah is Captain Brooke, who was beloved by the Dyaks, bravely following him upon any expedition against rebels to the authority of his uncle. As Rajah Brooke never married, years before his decease it was legally arranged that his nephew should succeed him. When we met the rajah in Singapore, in 1853, we could but admire the finely-shaped head, the benign countenance, upon which a smile continually played—albeit firmness and decision were very decidedly expressed—and the majestic mien of this admirable dispositioned man. Mr. Wallace draws attention to the fact that the natives regarded him as a superior being, a sort of god; as they could not believe that any man of clay could act so unselfishly, giving them everything he had—his advice, his energies, his money—without receiving any return whatever.

To return to the year 1846, he was busy consolidating his government. He made treaties with adjacent states, appointed native magistrates, and discouraged the head hunting expeditions of the Dyaks, his faithful friends and allies. An insurrection took place—a plot was made to poison him, and two rajahs were murdered; but peace was restored after the arrival of a squadron from Singapore.

The Queen having refused the offer he made to her of the territory of Sarawak, she formally acknowledged him as rajah, and he returned also as governor of Labuan—then lately taken possession of by England. Respecting his exertions to put down piracy, the *Penny Encyclopædia* has the following:—"On the 31st July, 1849, the rajah, with a fleet of Sarawak prahus, and assisted by H.M. ship *Royalist*, the East Indian Company's steamer *Nemesis*, and three boats of H.M. ship *Albatross*, attacked and annihilated a fleet of 150 Dyak and Malay prahus, at the mouth of the Serabas River. The prahus were manned by from thirty to seventy men each, who were chiefly Dyaks of the Serabas and Sakerran, with a few Malay chiefs among them, commanding; about 800 are said to have been killed. Many were drowned in the swamped prahus; and only 2500 are said to have escaped to the jungle. The rajah's boats, after this action, ascended the river, and destroyed the villages along the Serabas. This fearful chastisement was inflicted upon

these people, according to Rajah Brooke, because they were pirates ; and head-money was paid to those concerned in the action (by the British Government.) But there are not wanting those who stoutly maintain that they were inoffensive traders, and that the expedition was undertaken by the rajah from ambitious personal motives." This was the action off the Bornean coast to which we refer under the head Sulu Archipelago.

Not a little perilous must have been Rajah Brooke's position, surrounded by such diverse and turbulent subjects, Malays, Bugis, Dyaks, and Chinese. These last numbering many thousands, suddenly rose *en masse*, intending to murder all opponents, and to take possession of the place. At night they attacked the bungalow of the rajah, who had just time to escape in his shirt and panjamas (night drawers,) and only could he save himself by swimming across the river. Fleeing through the jungle he made for the haunts of his faithful sea Dyaks, the head hunters, who, swooping down under the command of Captain Brooke, speedily put to death every Chinaman who had not time to reach the jungle ; and his authority was at once restored.

PRODUCTIONS.—Borneo produces rice, sago, black pepper, camphor, cocoa-nuts, areca palm, honey, cotton, cloves, dye woods, sandalwood, ebony, gutta-percha, a vast number of oil-bearing plants, rattans, cordage, benzoin, and other gums for frankincense, indigo, turmeric, —much used by the Malays to flavour their food—gold, iron, tin, copper, antimony, and diamonds. The horticulture comprises bananas, breadfruit, melons, pumpkins, mangoes—a most deliciously luscious and safe fruit, which is often eaten in a bath—custard, tamarinds, pomegranates ; and a great variety of fruits, such as pine apples, lemons, oranges, citrons. The seas and rivers abound in fish ; the numerous banks off this and the other islands afford the fish abundance of food ; and no country can be better supplied with the most delicate qualities, of which a great variety, as well as the sea slug, are dried for purposes of commerce with the neighbouring countries.

Elephants, rhinoceroses, leopards, buffaloes, deer, wild hog, monkeys, daring and of great size and sagacity, cattle, a few horses, fowls, ducks, with a great variety of superbly plumaged birds abound. Tortoises, which yield valuable shell, are found on the north and north-east coasts, and pearls and mother-of-pearl shell are found also on the north-east coast.

DIAMOND MINES.—"These are confined to the west and south-west coasts, being principally situated in the Dutch territories of Pontianak and Banjar-Massin, and are worked by perpendicular and lateral shafts, the workmen being Dyaks only. The diamonds are said to be found in veins precisely similar to those of the gold. The rajah of Maslan is in possession of one of the largest diamonds known to exist ; it was obtained about 100 years ago, and weighs 367 carats gross ; its estimated value is £269,377."

GOLD MINES.—Mr. Earl mentions that “previous to 1818, when the Dutch seized this coast, upwards of 32,000 Chinese were employed at the gold mines in the western parts of Borneo. In 1812 it was estimated that the annual amount of these mines was 4,744,000 dols., or £1,186,000. The soil which contains the metal is here found in small veins, from eight to fifteen feet below the surface. If the depth of the vein be less than ten feet, a trench is dug, the whole of the upper stratum being removed; but if deeper, a shaft of three feet square is sunk perpendicularly into the vein, and the miner works into it about ten feet in both directions, sending the ore up in baskets. When it is all removed, another shaft is sunk into the vein twenty feet beyond the first, and the miner works back into the old excavation, extending his labours ten feet in the opposite direction. The ore thus procured is removed to the nearest washing place, where a stream has been dammed up like a mill pool, and a strong body of water being turned through a large wooden trough, into which the ore has been placed—the bulk of the dirt is thus removed; the metal being afterwards washed by hand in small bowls. A company of individuals generally club together to work a mine, two or more of the shareholders being appointed directors—these latter generally being wealthy merchants, who purchase the shares of the miner at a risk; supplying them with food and opium. I could not learn exactly the proportion in which the gold is distributed after being washed, but believe it to be nearly as follows—the government claims one-fourth; and of the remainder, the shares of the washers are two-thirds greater than those of the labourers, who are only employed in mining. The gold is found in very small particles, for the most part as fine as sand. Large specimens, however, are occasionally found, not in lumps, but in small irregular pieces, joined together by integuments, much resembling lead that has been melted and afterwards thrown into water. The gold is from eighteen to twenty-one carats, the dark coloured being esteemed the best. The gold dust is put up into small paper packets, each weighing two Spanish dollars;” but, after the packets are stamped by the authorities, “the punishment for the adulteration of dust thus warranted is the loss of the right hand of the offender.”

ANTIMONY.—The antimony mines of Rajah Brooke have long been famous, and the mineral is said to have been found “in masses or rather mountains.” Again Mr. Earl says: “The ore, which is called, I believe, foliated antimony, is found either on or immediately under the surface of the ground, and is to be obtained with so much facility that a hundred tons may be exchanged with the Dyaks for goods to the amount of little more than the same number of dollars. The Malays of Sambas are in the habit of painting flowers on their dresses with a preparation of antimony ore, which imparts to the cloth a bright and permanent steel colour.”

WEST AUSTRALIA.

RESUMPTION OF VOYAGE—FROM PORT DARWIN TO VICTORIA RIVER.

AFTER this long digression to roam, metaphorically, about the East Indian Archipelago, we will resume our voyage round West Australia; starting from Port Darwin, and sailing south westward, we continue in the Northern Territory up to the 129th meridian of longitude.

PORT PATERSON is passed in latitude, south, $12^{\circ} 25'$, and longitude, east, $130^{\circ} 35'$.

ANSON BAY is in latitude, south, $13^{\circ} 15'$, and longitude, east, 130° .

DALY RIVER debouches into Anson's Bay, east of Cape Ford, and Captain Willshire, who is conversant with this coast, and who was one of Mr. Finnis' exploring party, enthusiastically declares it to be a noble river and fine harbour; but it has not been traced higher than 100 miles, and soundings have not been made. He regards the site as most suitable for a port and township; and it will afford access to an extensive tract of very fertile country to the eastward. Three large streams disembody near the mouth of the Daly; and some persons suppose that the Finnis and the Katherine may be traced hereto.

CAPE HAY is in latitude, south, 14° , and longitude, east, $129^{\circ} 30'$.

PORT KEATS is east of Cape Hay.

VICTORIA RIVER, of Stokes and Wickham, is in latitude, south, 15° , and longitude, east, $129^{\circ} 30'$, and debouches into the Indian Ocean, through Queen's Channel, east of Cambridge Gulf, and east of the West Australian boundary. This is also a noble river, and has a good harbour of deep water. So large a body of water here empties that, until Gregory explored it, a great inland river was supposed to exist, and to be connected herewith—"After a south-easterly bearing, in ascending its course, it was found, finally, to take a southerly direction; and, after 300 miles, its source or dry bed was discovered to be in a sterile desert." Large vessels can navigate it for about forty miles; after which very small crafts can ascend about sixty miles. Fitzmaurice River is another large river, which empties near the mouth and east of the Victoria River.

QUEEN'S CHANNEL is east of Cambridge Gulf. Through this channel, and to this point, about latitude, south, $13^{\circ} 44'$, on the north-west coast, runs the divisional line between South Australia and West Australia.

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CHAPTER I.

FROM QUEEN'S CHANNEL TO MURCHISON RIVER.

THE DIVISIONAL LINE between South Australia and West Australia is the 129th meridian of east longitude, which is about $0^{\circ} 30'$ west of Victoria River, on the north-west coast, and terminates at Port Eucla, in the great bight west of Fowler Bay, on the south coast of Australia; east of Recherche Archipelago, and west of Fowler Bay.

CAMBRIDGE GULF is in latitude, south, 13° , and longitude, east, $129^{\circ} 30'$, south-east of Cape Londonderry.

CAPE LONDONDERRY is in latitude, south, $13^{\circ} 45'$, and a little west of the 127th meridian of longitude, east.

PRINCE REGENT INLET, in latitude, south, $13^{\circ} 20'$, and longitude, east, 125° , is north of Camden Harbour.

COUNTRY EXPLORED BY CAPTAIN GREY AND LIEUT. LUSHINGTON.—In 1837 they landed at Prince Regent Inlet, having embarked at the Cape, on an expedition to explore north-west Australia. Captain Grey says:—"Our view was bounded by lofty cliffs, from 300 to 400 feet high, lightly wooded at their summits, and broken by wide openings or chasms, into which ran arms of the sea, forming gloomy channels of communication with the interior country; whilst on each side of their entrances the huge cliffs rose like the pillars of some gigantic portal. In general, the openings of these rivers from the sea are very narrow, forming gorges which terminate in extensive basins. Some fifteen or twenty miles inland the levels of these reservoirs are subject to be raised thirty-seven feet by every tide, through their funnel-like entrances; along which the waters, consequently, pour with a velocity, of which it is difficult to form any idea. By such a tide were we swept along in our boat, as we entered Prince Regent's Inlet by its southern mouth. On each side of us rose red sandstone cliffs, sometimes quite precipitous; sometimes, from ancient landslips, shelving gradually down to the water, and, at these points, covered with a dense tropical vegetation. At several such places we landed, but always found the ascent to the interior so covered with large loose rocks that it would have been impossible to have disembarked stores or stock."

Touching one excursion, he continues:—"Here were regular beaten tracks of the natives, as completely pathways as those we find in England from a village to a farm house. Near the sea we

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also came upon a complete hill of broken shells, which it must have taken some centuries to form; for it covered nearly, if not quite, half an acre of ground, and in some places was ten feet high. It was situated near a large bed of cockles, and was evidently formed from the remains of native feasts, as their fireplaces, and the last small heaps of shells were visible on the summit of the hill."

DISCOVERY OF GREY'S GLENELG.—Glenelg river is in latitude, south, $15^{\circ} 50'$, and longitude, east, $124^{\circ} 20'$. Having sent for and safely landed twenty-six ponies, from Timor, these gentlemen commenced their march south-west; and Captain Grey thus describes the country:—"From the summit of the hills where we stood we gazed over, for thirty or forty miles, a low, luxuriant country, broken by conical peaks and rounded hills, which were richly grassed to their very summits. The plains and hills were both thinly wooded, and curving lines of shady trees marked out the course of the various streams. Since I have visited this spot, I have traversed large portions of Australia, but have seen no land, no scenery equal to it. We were upon the confines of a great volcanic district, clothed with tropical vegetation, to which the Isle of France bears a greater resemblance than any other part of the world with which I am acquainted. There suddenly burst upon the sight a noble river, running through a beautiful country, and, where we saw it, at least three or four miles across, and studded with numerous verdant islands." "This river was named the Glenelg. Its banks were low and marshy, and in many places covered with such extensive forests of mangrove trees, that it was impossible to approach the main stream. The rise and fall of the tide was about twenty feet, and the current rapid." They passed through valleys of great luxuriance; as fine grass as ever was seen, and which abounded with game. They discovered caves, with drawings by the natives. "In one cavern the principal figure was that of a man ten feet six inches high, clothed, from the chin downwards, in a red garment. Other paintings, in red, yellow, and bright blue, occur in many of the sandstone caves; of heads surrounded with broad discs, kangaroos, shields, &c."

FITZROY RIVER, about latitude, south, 17° , and longitude, east, 123° , debouches into King's Sound, south of Collier Bay.

ROEBUCK BAY is about latitude, south, $17^{\circ} 30'$, and longitude, east, 122° .

DE GREY RIVER is in latitude, south, $20^{\circ} 14'$, and longitude, east, 120° .

PORT WALCOTT is south of De Grey River, a rendezvous for pearl-ers.

TIEN-TSIN is a port about 100 miles north of Nickol Bay, also a rendezvous of pearl-ers. A few stores are at the port; and inland about twelve miles, is Roeburne, a small township about 1000 miles north of Perth, with which the only communication is by occasional

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coasters. Here resides a government resident, and there is a post-office and one hotel—the “Roeburne.” This is the spot at which Colonel Warburton arrived on his journey, exploring, from Alice Spring Telegraph Station, in the centre of Australia. The houses are built of wood, and in March, 1872, the whole town was levelled with the ground—so furious are the gales at times on this coast. Gold has recently been discovered in this locality. The export during the late season, of pearl shells, has been 300 tons, which realise in England £180 to £280 per ton. The pearl fisheries along this coast are of much importance, the divers employed being principally Malays. These shells weigh about seven or eight pounds each; but there is another oyster in which are found the lustrous pearl; these latter shells are small, and not worth more than £35 per ton. Some years ago we saw a pearl of monstrous size, and of great beauty, in a jeweller's shop in Collins-street; it was found on this coast, and was valued at £5000.

NICKOL BAY is in latitude, south, $20^{\circ} 35'$, and longitude, east, $116^{\circ} 50'$. It is south of Tien-Tsin (Roeburne.)

DAMPIER'S ARCHIPELAGO is south-west of Nickol Bay. Along this coast, as far as Shark's Bay, are about fifty islands.

BARROW ISLAND, off Fortescue River, has been taken up by a South Australian gentleman for the turtle fishery. Turtles, as well as the *dugong*, abound hereabouts; the latter yields a large quantity of valuable oil, an efficient substitute for cod liver oil. It is a huge animal, as large as an elephant, with a head like a pig, suckles its young, eats like pork, and is esteemed by sailors; its hide is half-an-inch thick, and it is harmless.

FORTESCUE RIVER is in latitude, south, $21^{\circ} 28'$, and longitude, east, $116^{\circ} 30'$.

NORTH-WEST CAPE is in latitude, south, $21^{\circ} 50'$, and longitude, east, 112° , west of Exmouth Gulf. To Java Head is 1000 miles.

ASHBURTON RIVER is in latitude, south, 23° , and longitude, east, $117^{\circ} 10'$.

GASCOIGNE RIVER is in latitude, south, $24^{\circ} 43'$, and longitude, east, $114^{\circ} 20'$. At flood time this is a considerable stream; and Captain Grey says the main channel was about 270 yards broad, and the banks were sixteen feet high; but, “after passing the highest point reached by the sea, this huge river-bed was perfectly dry, and looked the most mournful deserted spot imaginable. Occasionally, we found in this bare sandy channel water-holes of eighteen feet or twenty feet in depth, surrounded with tea trees and vegetation; and the drift wood, washed high up into these trees, sufficiently attested what rapid currents sometimes sweep along the now dry channel. Even the water-holes were nearly all dried up, and in the bottom of these the natives had scooped their little wells.” The soil in the neighbourhood is fertile and grassy, and in the valleys are fresh-water lagoons.

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CAPE CUVIER is in latitude, south, $24^{\circ} 15'$, and longitude, east, $113^{\circ} 27'$.

DIRK HARTOG ISLAND is in latitude, south, $25^{\circ} 45'$, and longitude, east, 113° .

BERNIER ISLAND and Dorré Island are in Shark's Bay; the former is north of the latter.

SHARK'S BAY lies between Cape Cuvier and Dirk Hartog Island, and abounds in safe anchorages. In 1838 Captain Grey and an exploring party left Swan River to explore this locality. They landed on Bernier Island, and found no water. On Dorré Island they obtained some from holes in the rocks. These islands are of limestone, containing fossil shells, with not a blade of grass. After encountering many privations on the mainland, they returned to Bernier Island, and found that the sea had swept away all their stores. With but ten days' provisions they took to their whale boats. After coasting along a surf-bound coast on which no boat could land, for 120 miles, they reached Gantheaume Bay, where they landed in order to seek for water, and their boats were at once wrecked. They then had to walk 350 miles through an inhospitable country with but twenty pounds of flour per man; and having endured the most terrible thirst for three days, they arrived at a little hole of mud, and each greedily swallowed a mouthful "protesting it was the most delicious water he had ever tasted." After being out eighteen days, and without any food remaining, those in advance fell in with some natives who gave them frogs and fresh-water tortoises, which enabled them to reach the hut of the furthest outlying station from Perth. Those remaining behind were found by the rescuers straggling along in a hopeless condition, owing to hunger and thirst; and Mr. Frederick Smith, eighteen years of age, unable to hold out, was left in a dying state—where he was subsequently found dead—seventy-six miles north of Swan River. A lucrative pearl fishery, extending 150 miles, exists in Shark's Bay Inlet, where is found the true pearl oyster, which yields the most lustrous pearls.

MURCHISON RIVER.—Port Gregory is in latitude, south, $27^{\circ} 36'$, and longitude, east, 115° , and empties into Gantheaume Bay. In this locality are the Geraldine Lead Mines, from which considerable shipments of lead ore have already been made.

CHAPTER II.

FROM CHAMPION BAY TO FREEMANTLE.

CHAMPION BAY is in latitude, south, $28^{\circ} 45'$, and longitude, east, $114^{\circ} 42'$, and is a safe harbour.

GERALDTON is the principal port of the northern district, about 263 miles north-west of Perth. The district has a population of

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about 3000. In 1873, 1416 tons of lead ore were exported hence; considerable shipments of copper ore have also been made, and so promising are the mineral resources of the district, that extensive smelting works are about being erected by Victorian capitalists.

NORTHAMPTON is the northern mining township, thirty-two miles from Geraldton, and 295 miles from Perth. Besides the Geraldton mines, more or less rich, lead ore is found, averaging at least thirty per cent., over an area covering 5000 square miles. The *Jessie Stowe*, recently loaded at Geraldton, 600 tons lead ore from the Melbourne and Champion Bay Company; and the *Cleopatra*, after taking in a full cargo, will leave hundreds of tons of ore ready for shipment.

ARROWSMITH RIVER is in lat., south, 29° 20', and long., east, 115°.

SWAN RIVER is in latitude, south, 31° 40' and longitude, east, 116° 30'. It is the principal river; rises in the central range, and after a course of 100 miles, receiving many tributaries, it enters Cockburn Sound by an estuary, into which the Canning flows.

FREEMANTLE is the principal port in the colony, on the south bank of the entrance of Swan River, and has a population of about 3000. When northerly gales prevail, vessels can make for the Harbour of Refuge, at Garden Island, twelve miles distant; as, at such times the ordinary harbour is insecure.

From FREEMANTLE to LONDON is 13,000 miles; to CAPE TOWN, 5000; to MADRAS, 3400; to CEYLON, 3100; to TASMANIA, 2200; to SYDNEY, 2600.

The voyage to England is performed in about a month less than from Sydney, and the homeward route is by way of the Cape of Good Hope. From the northern ports to Timor is about two days' sail; thus the position of this colony, with a seaboard to the Indian Ocean of 2000 miles, is most important, whether in a commercial point of view, or in time of maritime warfare. The voyage to Madras has been performed in twenty-five days.

PROGRESS.—A correspondent of the *Argus*, writing from Freemantle in June, says:—"The *Jessie Stowe*, now about to sail, carries about £70,000 worth of wool, ore, and pearl-shell. Two clipper barques sailed on the 8th instant for Singapore, having on board 680 tons of sandal-wood, and thirty-two horses. From Geraldton there is news of the probable erection of extensive smelting works by the Melbourne and Champion Bay Lead Mining Company, and the railway is progressing: There is no part of this colony which seems more certain of great and speedy success than the Champion Bay district; and there, as at Jarrahdale, and other places, it is Melbourne capital that pushes the place ahead, and Victorian pockets will benefit by the great natural riches of this western seaboard. The mineral wealth of the district is enormous and varied. Even with limited means at disposal, there were no less than 1900 tons of lead ore raised last year, and this calculation excludes the Geraldine

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mine. The exports of the colony are now largely in excess of her imports, and the increase in 1874, as contrasted with the preceding year, is very marked. Sandalwood has risen from £62,918 to £70,572; mother-of-pearl shells, from £28,262 to £61,600; timber, from £4770 to £24,192; lead ore, from £11,586 to £25,725; and wool, from £132,099 to £215,624. In other items the progress is well marked, but the great and crying want is, as formerly, population. Excellent and timely rains have fallen, the whole land is covered with verdure, farmers and stock-breeders are in high spirits, and cheerful reports come from all quarters. Latest reports confirm the existence of splendid tracts of grassy country on the high tablelands to the north of Eucla, and it is hoped that water supplies may be obtained from the wells which are now being sunk. The Eucla telegraph to South Australia is in course of construction; when completed, it will very materially alter the position of our community, by placing us in immediate communication with the outside world. A lately proposed plan for the formation of a floating dock at the north side of the entrance of the Swan has excited great attention, and receives much support. The formation of a break-water is part of the plan. Should it prove feasible, as very many are confident that it will, the port of Freemantle would at once double its traffic, the present detention of vessels would cease, and a safe and good harbour, which is the great desideratum of our coast, would be supplied."

CHAPTER III.

FROM PERTH TO CAPE LEUWIN.

PERTH is the capital of West Australia. "From Freemantle, a winding estuary from two furlongs to a mile in breadth, runs, for several miles, through pleasing or romantic scenery, varying the views, through the circuitous course round long spits of sand; it being necessary to keep in deep water. Rocks of grotesque shape constitute, in many places, the prominent features of the banks. This estuary opens into Melville Water, a beautiful expanse six miles long and four miles wide, which has a fine background composed of the Darling Range. The mouth of the River Canning is seen nearly four miles from the estuary on the right; a narrow strait is then threaded, and, at the foot of a hill, richly clothed with wood, is seen the town of Perth, built on one of its declivities, and stretching along the arms of a curving bay." There are some fine public buildings, which have been built by convict labour; and many handsome private residences. The population is about 5000, including the military. The convicts in this depôt number about 400.

YORK is a township sixty miles east of Perth, prettily situated, at the foot of Mount Bakewell, on the Avon River. The population in 1872, in the district, was 2566.

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GUILDFORD is a pretty little township, situated on the left bank of Swan River. By land, from Perth, it is seven miles; by water, twelve, owing to the windings of the stream. It is situated at the confluence of the Helena and Swan. The soil is rich alluvial, and most of the houses have gardens attached.

ROCKINGHAM is in latitude, south, $32^{\circ} 12'$, and longitude, east, $115^{\circ} 40'$, and the Rockingham Jarrah Timber Company export hence large consignments of Jarrah timber.

JARRAH TIMBER.—This is the name of a species of eucalyptus, viz., the *Eucalyptus Marginato*, sometimes called Swan River mahogany. It is suitable for furniture, being highly ornamental in the grain, and less liable to fracture when cut in the proper season. It is impervious to the attacks of the white ant, and of the *terredo navalis*, or sea worm. Under water it will remain unimpaired; and it is unnecessary to copper a vessel constructed of this timber, although underwriters may require it. One shipbuilder, at Freemantle, reports: "I have seen this timber after being twenty years in the water, when the iron was completely rusted away, and the timber was quite sound; so that an original hole of half an inch, after the lapse of twenty years, will be safely filled with a $\frac{1}{4}$ -inch bolt." It is of the utmost importance that the timber be felled at the proper time, the period of the least flow of the sap, which, being an evergreen, is of short duration. Mr. James Manning, clerk of the works at Freemantle, says: "I have recently taken up piles that were driven for a whaling jetty in the year 1834 or 1835, making a period of at least thirty-five years; the timber is small but perfectly sound, and free from insects, although the place is swarming with the *terredo*." Singularly enough the timber varies in quality, and some inferior qualities are not impervious to decay, viz., that grown on the low-lying sandy lands; whilst that obtained from the region of the Ironstone Ranges is of a heavier tendency and harder nature; and will resist decay as well as the white ant and *terredo navalis*. And this property of resistance to these insects' depredations is pronounced by Professor Abel to be due to the presence of a pungent and highly stringent acid, which he calls "Jarrah Tannic Acid;" destructive to insect life. But such acid is only found in the timber growing on the ironstone, where is no soil whatever. To the presence of this acid in the timber felled in the wrong locality, viz., the low-lying lands, or from being cut when the sap was not at its lowest ebb, may, probably be due the disfavour with which some shipments of jarrah to Ceylon and India, have been regarded. At any rate, in these colonies, it is considered pre-eminently the timber for jetties, wharves, railway sleepers, and telegraph posts, and the companies at Rockingham Bay and Geographe Bay have continually large orders from the colonial governments; in fact, so busy are both companies at present that they will not bind themselves to time in executing any fresh orders. One company is styled

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the Western Australia Timber Company, of which Mr. John Ditchburn is the manager, at Ballarat, Victoria. The other company is styled the Rockingham Jarrah Timber Company, of which Mr. J. N. Wilson is the manager, also at Ballarat, which may be proud of its enterprise; and that two such powerful companies—emanating from a town 100 miles inland, and over 2000 miles away from the forests to be felled—should have surmounted all difficulties, and become profitable undertakings, under Ballarat management.

MURRAY RIVER, of West Australia, is in latitude, south, $32^{\circ} 45'$ and longitude, east, $115^{\circ} 20'$.

AUSTRALIND is a township 105 miles south of Perth, on Leschenault Inlet, about seven miles from Bunbury.

LESCHENAULT INLET is in latitude, south, $33^{\circ} 20'$ and longitude, east, $115^{\circ} 40'$. Into it debouches the Preston and Collie Rivers. The harbour is not well protected from winds, north-westerly.

BUNBURY is on the Leschenault Inlet, at its mouth. Hence are shipped sandalwood and horses, and here is a long jetty and lighthouse. It is about ninety miles south of Freemantle.

GEOGRAPHE BAY is in latitude, south, $33^{\circ} 20'$ and longitude, east, $115^{\circ} 30'$.

BUSSELTON is about thirty miles south of Bunbury, and in Geographe Bay. It is 140 miles from Perth.

LOCKVILLE is five miles from Busselton. Here the Western Australia Timber Company have erected a jetty, saw mills, and twelve miles of railway, to connect their vast forest of jarrah timber with the sea-board, from which they export largely to India and the colonies.

CAPE NATURALISTE is in latitude, south, $33^{\circ} 28'$, and longitude, east, $114^{\circ} 59'$.

CAPE LEUWIN is in latitude, south, $34^{\circ} 15'$, and longitude, east, 115° , and is the extreme south-west point of Australia.

BLACKWOOD RIVER debouches into Flinders Bay, near to and east of Cape Leuwin.

CHAPTER IV.

FROM KING GEORGE'S SOUND TO CAPE CATASTROPHE.

KING GEORGE'S SOUND is in latitude, south, $35^{\circ} 8'$, and longitude, east, 118° . To Galle, is 3300 miles; to Cape Otway, 1250 miles. The harbour is one of the finest and most commodious in Australia, and is land-locked.

ALBANY is picturesquely situated on the northern shore of the harbour. It is about 260 miles, by a good road, from Perth. A jetty offers every facility for the loading and unloading of vessels; and it is the depôt of the Peninsular and Oriental Company, whose

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steamers here coal. The population is about 400, in the town, and 1700, in the district. When we landed here, in 1853, the blacks were numerous, stark naked, and appeared to be, physically, a far finer race than the Victorian tribes; yet inferior to the Port Darwin natives, who are, as yet, ignorant of the disastrous effects of alcohol.

DOUBTFUL ISLAND BAY is in latitude, south, 34. 15', and longitude, east, 119° 30', north-east of King George's Sound, and is a very safe harbour.

RECHERCHE ARCHIPELAGO lies between the 122nd and 124th meridians of longitude, and all along this coast are precipitous cliffs 400 to 600 feet high.

GREAT AUSTRALIAN BIGHT is the half-moon indentation of the southern coast of Australia, east of Recherche Archipelago. The whole of this coast is sandy, barren table-land, and destitute of water, bounded by precipitous cliffs, unapproachable by any vessel. Prior to any exploration of the coast, Captain Flinders, in 1803, in the *Investigator* coasted the shores of the bight. He remarks:—"The height of this extraordinary bank is nearly the same throughout, being nowhere less, by estimation, than 400, nor anywhere more than 600 feet. In the first twenty leagues, the ragged tops of some inland mountains were visible over it; but during the remainder of its long course, the bank was the limit of our view. The equality of the elevation for so great an extent, and the evidently calcareous nature of the bank, at least in the upper 200 feet, would bespeak it to have been the exterior line of a vast coral reef, which is always more elevated than the interior parts, and commonly level with high water mark. From the gradual subsiding of the sea, or, perhaps, by a sudden convulsion of nature, this bank may have attained its present height above the surface. If this supposition be well founded, it may, with the fact of no hill, or other object, having been perceived above the bank in the greater part of its course, assist in forming some conjecture of what may be within it; which cannot, as I judge, in such case, be other than flat sandy plains or water. The bank may even be a narrow barrier between an interior and exterior sea; and much do I regret not having formed an idea of this probability at the time; for, notwithstanding the great difficulty and risk, I should certainly have attempted a landing upon some part of the coast, to ascertain a fact of so much importance."

EYRE'S EXPLORATION OF THE COAST.—In 1840 the above mystery was solved by Mr. Eyre, a man of rare and indomitable courage, as has been more recently proven by the vigorous policy he adopted, when, as governor of Jamaica, he suppressed the black rebellion, and, as many think, prevented the massacre of the white population—apparently remorseless though his conduct was, in executing a self-styled patriot or demagogue, who had instigated the rebellion. Mr. Eyre started from Adelaide on an expedition to explore the country between South Australia and West Australia.

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He took with him five Europeans and two aboriginal youths, likewise two drays, thirteen horses, and forty sheep, as well as three months' stores.

Having formed a depôt at Mount Arden, he proceeded to Lake Torrens, supposing it to be the basin of the interior drainage of the continent. So mysterious in appearance is the lake, caused by the mirage and refraction, that at one time it appeared to be fifteen or twenty miles across, and to embrace a course of 200 miles in outline. "It was impossible to tell what to make of sensible objects, or what to believe on the evidence of vision, for, upon turning back to retrace our steps, to the eastward a vast sheet of water appeared to intervene between us and the shore, whilst the Mount Reception ranges, which I knew to be at least thirty-five miles distant, seemed to rise out of the lake itself, the mock waters of which were laving their base, and reflecting the inverted outline of their rugged summits." He penetrated into the lake for six miles, and found it to consist of stiff mud, coated with a crust of white salt, which shone in the sun's rays with dazzling brilliancy. The horses were unable to advance, although there falsely appeared to be a large body of water. Relinquishing a northerly route, he travelled south-west to Port Lincoln, and then started for his long journey, attended with so many disastrous circumstances. Before reaching the head of the bight, owing to the desert character of the country, he determined to reduce the number of his party.

A government cutter had accompanied him to Fowler Bay, the last place where a vessel could approach the coast, as the precipitous cliffs were many hundred feet high, with a strong current setting into the bight. At Fowler Bay he obtained a black belonging to King George's Sound; and, after sending back in the cutter the rest of the party, he proceeded coastwise with his overseer and the three black boys. No break occurred in the interminable cliffs, and they suffered much from want of water.

Having reduced the flour allowance per head, the blacks began to sulk at the prospect of having yet to travel some hundreds of miles. The overseer was shot on a dark stormy night by the two Adelaide blacks, who carried off two guns, and, with what stores they could obtain, made for Fowler Bay. Mr. Eyre says:—"At the dead hour of the night, in the wildest and most inhospitable region of Australia, with the fierce wind and raging storm in unison with the scene of violence before me, I was left with a single native, whose fidelity I could not rely upon, and who, for aught I knew, might be in league with the other two; who, perhaps, were, even now, lurking about with the view of taking away my life, as they had that of the overseer." He travelled silently on for 600 miles with his faithful black, suffering much from want of water, and, after killing the horses for food, ultimately they arrived at King George's Sound. The boy was warmly received by his tribe, and rewarded by Mr.

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Eyre, who sailed for Adelaide, and arrived there after being absent one year and twenty-six days. He left Adelaide in June, 1840, and arrived at King George's Sound in July, 1841, having traversed 1200 miles. He found the sea-board without rivers, and he could only procure water by tapping sand-hill springs and sinking wells; a tedious and toilsome process.

PORT EUCLA is in latitude, south, $31^{\circ} 45'$, and longitude, east, 129° ; and here commences the divisional line between West Australia and South Australia.

FOWLER BAY is in latitude, south, 32° , and longitude, east, $132^{\circ} 26'$.

INVESTIGATOR GROUP is in latitude, south, $33^{\circ} 45'$, and longitude, east, $134^{\circ} 26'$; south-west of Eyria Peninsula.

CAPE CATASTROPHE is in latitude, south, $35^{\circ} 1'$, and longitude, east, $135^{\circ} 54'$, and the southernmost point of the peninsula; west of Spencer's Gulf, and south of Port Lincoln.

CHAPTER V.

RESOURCES—LAND LAWS—TARIFF, &c.

PEARL FISHERIES.—Those on the north-west coast afford employment to some hundreds of divers; and for over 200 years, this coast has been fished by Malays from the eastern archipelago.

MINERAL RESOURCES.—Lead, combined with silver, as well as iron ore, are found in inexhaustible quantities; the former in lodes running almost invariably nearly north. The copper deposits are promising; and in five years, 4500 tons were exported. Coal has been found in several parts; and it is to be hoped that it will be found so situated that the iron may be utilised. Gold is supposed to exist, and the government has offered a reward of £5000 for the discovery of a payable goldfield within 300 miles of a declared port.

RAILWAYS.—A line is in course of construction from Geraldton, thirty-two miles, to Northampton, the central town of the mining district. Other lines are contemplated, viz., Freemantle to Perth; thence to Guildford, and to Newcastle, a rising town on the Avon, fifty-four miles from Perth; and on to York, another thriving town on the Avon, sixty miles from Perth. Surveys have been made, and the lines will be carried out so soon as labour is procurable.

TELEGRAPHS.—Nearly all the districts are now united with the capital, by wire; which in December, 1874, extended 900 miles, open or in course of construction. Another line from King George's Sound to Eucla, on South Australian boundary, to be constructed by the two governments, is being laid out.

TRADE.—The export of wool is yearly increasing. In 1872 the wool exported amounted to 1,839,562 lbs., valued at £122,637. The

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value of the pearl shell exported from Nickol Bay, in 1871, was £26,335; in 1872, £25,890; and in 1873, nearly £50,000. In 1871, 3663 tons of sandalwood, valued at £25,641, was exported chiefly to China; and in 1872, 4000 tons, valued at £32,000. The cured fish exported from Port Gregory is of considerable value. In 1872, 475 horses, valued at £5124, were shipped. The Jarrah timber trade is rapidly increasing; although the difficulty of procuring labour retards this industry, as well as every other. Gum, resin, hides, kangaroo skins—upon which is an export duty of one shilling each—leather, and tortoise-shell are the other articles of export, as well as oil. Whales formerly abounded on the north-west coast.

LAND LAWS.—Prospecting mineral leases are issued at two shillings per acre for the first year, and four shillings for the second. If found to be payable, a lease for ten years, transferable, is granted. Mineral land, in eighty to 160 acre blocks, can be purchased at £3 per acre. Tillage leases, all over the colony, less than 320 acres, can be had for eight years at a rental of one shilling per acre per annum. The lands are designated A, B, and C. The A is the best pasturage, and only annual leases are issued for it, at two shillings per acre, in areas not exceeding 1000 acres. Country land, in blocks from forty acres, may be bought at ten shillings per acre. B land—10,000 acres can be had on eight years' lease for £5 per year, and ten shillings fee extra for each 1000 acres. Such lands can be purchased at ten shillings per acre, if not mineral land. In other parts, C lands exist, where a squatter can graze free for two years upon 100,000 acres, and can then select 20,000 acres of it; and obtain a lease for eight years, at five shillings per 1000 acres per annum.

SANDALWOOD cutters pay a fee of two shillings and sixpence per month; and vast tracts of the wood are open to industrious men.

TIMBER LICENSES are £20 per annum for 640 acres, or £40 for 1280 acres, besides ten shillings per month for each pair of sawyers.

IMMIGRANTS' PRIVILEGES.—An immigrant who has paid his own passage receives a grant of £15 worth of land.

PHYSICAL FEATURES OF THE COUNTRY.—The immense desert to the westward impedes the squatters' advance; but some fine districts, favourable for squatting upon, can be found in the eastern country, where plenty of water can be raised by sinking wells.

TARIEFF.—On most articles a duty of ten per cent. on the invoice value is leviable, with the exception of those admitted free as well as the following:—Beer, 9d. per gallon; bran, 20s. per ton; butter, 3d. per lb.; cheese, 2d. per lb.; chicory, 1d. per lb.; cigars and snuff, 5s. per lb.; coffee, 1d. per lb.; confectionery, 2d. per lb.; corn, not including rice, 6d. per bushel; dried fruits, 2d. per lb.; hay and meal, 20s. per ton; potatoes, 10s. per ton; preserved provisions, 2d. per lb.; spirits, 14s. per gallon, proof; sugar, refined, 4s. per cwt.; sugar, raw, 3s. per cwt.; tea, 4d. per lb.; tobacco, manufactured, 2s. 6d. per lb.; unmanufactured, 1s. per lb.;

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sheepwash tobacco, 3d. per lb.; vinegar, 6d. per gallon; wine, 4s. per gallon.

EARLY COLONISATION OF WEST AUSTRALIA.—In 1825 the governor of New South Wales, fearing a foreign settlement might be formed on the west coast, forwarded a small party of convicts to King George's Sound. In 1827 Captain Stirling removed the party of military and convicts from Raffles Bay, Port Essington, to Cape Leuwin; and, subsequently, the Swan River settlement was formed, owing to his favourable reports, and he became the first governor. A number of gentlemen projected the scheme, whereby those persons who took over labourers were to receive a grant of 200 acres for every person introduced. In lieu of salary, a grant of 200,000 acres was made to Captain Stirling, the lieutenant-governor; and Mr. Peel, the principal mover, was to receive 250,000 acres on condition that he took out 400 emigrants. The first party arrived at the Swan in August, 1829. Tents were pitched, and then began their troubles. The land near the coast was poor and sandy, although those who pushed into the interior found better land, and, after encountering insuperable difficulties—although many quitted the country in disgust—some, endowed with perseverance, by the introduction of cattle and sheep, have become enriched.

TRANSPORTATION.—West Australia was, in 1850, at the request of the inhabitants, made a convict colony, and this has been its salvation; or the population might have emigrated *en masse*, as labour was unprocurable. In 1868, transportation ceased, after the introduction of 10,000 convicts, whose labour has been of incalculable benefit to the colonists, who petitioned against the cessation. Besides the convicts, free passages were given to some thousands of persons, many of them being the families of the prisoners.

CHAPTER VI.

CLIMATE—PRODUCTIONS—STATISTICS—RECENT EXPLORATIONS.

CLIMATE.—There are no swamps, or marshes, or luxuriant vegetation, to produce fevers, so that its infertility contributes to the healthiness of the climate, which is said to be the most healthy in Australia. Although the northern portion is hot, the heat is not of a moist character, and so its dryness renders it more bearable; and being tempered by cool breezes, it is not disagreeable. The prevailing wind about Cape Leuwin, at sea, is from the westward throughout the year. On the coast, land and sea breezes take place with great regularity throughout the summer. Gales of winds from the north-west and south-west are frequent in the winter, with heavy falls of rain. January, February, and March are the hottest months, and the thermometer often is 104° in the shade. A land breeze from the east

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prevails in the morning, and south-westerly sea breeze in the afternoon. In June, July, and August there may be frosts. The average mean temperature throughout the year is from 60° to 64°; and one writer thus sums up the nature of the climate: "The greater part of the winter is temperate and fine, and during the rest of the year, nothing can be more delightful than the climate generally, and its influence on the human constitution renders it very suitable for invalids. The seasons have been found to return steadily and uniformly. Neither epidemical nor endemical diseases occur. Dysentery is not often fatal, and consumptive persons' lives have been prolonged by a resort to this colony. The wet season commences in April with light showers, increasing through May, June, and July; then gradually decreasing, till ceasing in November, when the dry weather begins.

PRODUCTIONS.—Although three-fifths of the colony are supposed to be barren, or infertile, yet two-fifths of it are moderately, if not highly, fertile. All European fruits, vegetables, and flowers, attain the utmost perfection. The climate and soil are very favourable to the growth of the grape, olive, oranges, lemons, peaches, nectarines, figs, tomatoes, pomegranates, strawberries, raspberries, Zante currant, and castor oil plant.

STATISTICS.—The stock in the colony in March, 1875, amounted to 26,636 horses; 46,748 cattle; 777,861 sheep; and 13,290 pigs. During the year 1874, the revenue amounted to £148,073; and the expenditure to £143,266. The imports amounted to £364,263; and exports to £428,837. The public debt on 31st December, 1874, was but £119,000. The population on 31st December, 1874, was 26,209 persons, viz., 15,722 males, and 10,487 females.

EXPLORATION OF COLONEL WARBURTON FROM CENTRE OF AUSTRALIA TO WEST COAST.—The *Australasian Sketcher* states: "The most notable event that has for a long time occurred in connection with Australian exploration is the expedition of Colonel P. Egerton Warburton, from the centre of the continent to the west coast. The country crossed was wholly unknown, and its difficulties had baffled the efforts of several brave explorers who had endeavoured to cross it, amongst whom may be named Mr. Forrest and the Gregories. At length the liberality of Mr. Elder and Mr. Hughes, who fitted out and supported the expedition, and the enterprise and patient daring of Colonel Warburton, were successful in overcoming the great dangers and obstacles of the task, and a line has been now drawn through the midst of the great blank space to the westward, which occupied so large a portion of maps of Australia. Fears were entertained that they had succumbed to the difficulties of the journey, and the Hon. T. Elder had arranged to despatch a second expedition, under the command of Mr. John Ross, to try and discover them. The *Georgette*, which arrived recently from Freemantle, brings the gratifying intelligence that Major Warburton and party had reached

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a place 150 miles from the De Grey River, having exhausted their provisions, and having eaten all their camels but three. In the journey from South Australia to West Australia they travelled over 900 miles of country never before explored."

From the *South Australian Register* we quote the following narrative of the journey:—"It is now nearly a year since Colonel Warburton started from Alice Springs—one of the stations on our Overland Telegraph line—on his adventurous journey. He left that settlement on the 15th April, 1873, accompanied by his son (an experienced bushman,) Mr. R. Warburton, Mr. J. W. Lewis, Denis White, two Afghans, and a black boy, 'Charley,' who was obtained at the Peake. The party took with them seventeen camels, and were provisioned for six months. Almost at the outset, however, they were considerably crippled by the loss of four of these useful beasts of burden, for they broke away before the explorers reached Mount Wedge, a prominent natural feature within 200 miles of the Telegraph line, and the point where Mr. Gosse cut Colonel Warburton's tracks. The animals were followed for about sixty miles, but the search was fruitless, and the expedition had to proceed without them."

The *Advertiser* says Major Warburton "has traversed the continent from the MacDonnell ranges to the coast north of Nickol Bay, passing over 800 or 900 miles of ground never before trodden by the foot of white man. We are sorry to find that the expedition has only been useful in a scientific point of view. The country for nearly the whole distance is utterly worthless; barren, scrubby, and in the last degree wretched, the explorers had the utmost difficulty in forcing their way through. With poor feed for the greater portion of the dreary journey, with water often scarce, and little game, the brave band were reduced to the utmost extremities. For three months they had nothing to live on but dried camels' flesh and such roots and bulbs as they were able to gather. On the 13th December they were within 130 miles of the De Grey River, with only three camels left; and the men starving, were worn out, their clothes hanging about them in rags, and themselves looking like gaunt spectres, the very pictures of famine. Here they found themselves in beautiful country, and the leader, knowing he was not very far from squatting stations, resolved to send for relief."

EXPLORATION OF MR. JOHN FORREST.—THE GREAT WESTERN DESERT CROSSED.—Telegram from Mr. J. Forrest to the editor of the *Register*:—"Peake Station, 30th September, 1874.—I thank you for your congratulation, and I will try to give you a short account of our journey. We left Champion Bay on the 1st of April, and the furthest sheep station on the 18th. We reached Mount Hale, on the Murchison, the furthest point known in that direction, on the 4th May, and followed up a fresh-water branch over beautifully-grassed country. We took a course generally to the eastward until gaining the head of the branch in latitude 25° 50', and longitude 119°

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after which we bore south-east to latitude $26^{\circ} 25'$, longitude 120° , in the hope of finding other branches to the Murchison; but failing in this we bore north-east, and reached the watershed of the Murchison in latitude $25^{\circ} 5'$, longitude $120^{\circ} 40'$. We found it to be only a low rise with a few gullies running out of it into grassy flats, which find their way into the main river. From here to latitude $25^{\circ} 50'$, and longitude $126^{\circ} 30'$, we passed over an undulating spinifex desert, with but few breaks of feed. We found a few springs and many rocky waterholes, but owing to the dryness of the season they were often dry. We managed, however, to get along slowly, in two instances being obliged to remain nearly a month for want of water; but eventually we managed to find a small quantity, and by travelling long distances with but little water, reached some hilly granite country in longitude 127° . Here was found sufficient water in the rock holes to carry us on to the Barrow Ranges, where we found a spring near Giles' track. On the 17th August we reached a fine spring in the Cavenagh Ranges, where Mr. Giles had been camped for a long time in latitude $26^{\circ} 11'$, and longitude 128° , near the Mount Cooper of Mr. Gosse. From this point we followed pretty closely along Mr. Gosse's route through the Tomkinson Ranges to longitude 130° , having to find our own water; as all that was on the route was dried up. In longitude 131° we found water at Lungdey's Gully and followed nearly along Mr. Gosse's track through the Musgrave Ranges, and on to the Alberga, which we traced down, and reached the telegraph line on the 27th September, and the Peake to-day, where we are being most hospitably entertained by Mr. Blood and Mr. Bagot. Five horses were abandoned on the way, and one dropped down dead after reaching the telegraph line; want of feed was the reason of their giving in, and not so much want of water. There has been a great drought in the interior, and we have had scarcely a drop of rain. The whole country is very dry, and the old grass completely parched up. Our horses are in the very weakest condition, and out of fifteen we can only get three or four fit to ride. We have had to take turns about, walking all the way, nearly 2000 miles. Many natives were seen, and they attacked us on three occasions, but we were able to drive them off. On one occasion fifty attacked us, and on another 100. In the latter case I was nearly speared; some were wounded, but, as far as we know, none were killed. The Tomkinson and Mann and Musgrave Ranges are generally beautifully grassed; many springs were found, and, no doubt, many more exist. On reviewing the long time we have spent upon the march, I often wonder how we managed to get through such a miserable country. As far as over 600 miles we travelled through nothing but a spinifex desert.—(Signed) JOHN FORREST, Commander of Expedition, Peake Station."

The recent successful explorations of Messrs. Warburton, Forrest, Giles, and Lewis, will soon enable the hydrographers to define, to a

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great extent, that hitherto large blank space on the chart, north and north-west of the great Australian Bight.

THE FUTURE.—Undoubtedly, the resources of West Australia are great, and as, owing to want of capital and scarcity of labour—if not want of energy—they have remained undeveloped, we believe that the yields of material wealth from her mineral resources, now coming to light, will, ere long, attract the capital and labour which will develop them. We quote from Mr. Ogle's work, written above thirty years ago:—"Western Australia was, like other colonies, founded without principle or system, and the hardships the colonists endured, and the losses they incurred, were enough to have shaken the stoutest hearts; but the greater number conquered the difficulties and prepared a path in the wilderness, which those who now follow will find leading to a promising land—not to a land of idleness, but of uniform labour; not to a place of varied and continuous bustle and excitement, but where the peaceful occupations of the shepherd, the herdsman, and the tiller of the soil consume the year, and where the vanities of life have no stage for display. There, the anxious father of a family exchanges the corrosion of doubt and anxiety for their future provision, for a quiet and secure feeling that God has placed him in a beautiful region, so vast, that thousands of years will elapse before it feels the same pressure of numbers, and want of occupation, as the old and noble country from which he came." Yet such an Arcadia was destined, at no distant date, to be disturbed by the miner's pick, and the hum of the blast from the reverberating furnace.

South Australia, the East Indian Archipelago, and West Australia, have been thus arranged, in order, as we precluded, to keep together South Australia and the Northern Territory, which latter was the termination of our voyage. The following pages describe the voyage, starting from Adelaide, sailing eastwards round Australia.

SOUTH AUSTRALIA.

COMMENCEMENT OF VOYAGE FROM ADELAIDE TO PORT DARWIN.

It is to be noted that although, as we proceed, we shall often make long digressions, yet the reader will observe the continuity of the narrative of the voyage; and to show the duration of the passage, from place to place, we give the dates we arrive at or are off the ports and headlands all along the coast of Australia—to our destination *via* Torres Straits.

ADELAIDE.—We sailed from this port by the *Gothenburg*, steamer, Captain Pearce, on 22nd July, 1873, for PORT DARWIN, having on board twenty-five cabin and fifty-eight steerage passengers, as well as twenty-eight horses. The vessel had been chartered by several mining companies to convey their men and stores to the Territory, and on board were several well-equipped prospecting parties. First-class passengers paid £30, and steerage £23, whilst the moderate sum of £7 per ton was charged for freight, and £30 each for horses.

LACEPEDE BAY in latitude, south, 36° 42', and longitude, east, 139° 45', we passed a little south-east of the Coorong. It is a commodious and safe harbour. Captain Willshire, of Adelaide, conversant with the harbour, states that, with winds from the north-west dead on to shore, it is protected by cross currents four miles out, and in the heaviest gale a vessel can draw on to a lee-shore and bring up in smooth water, with no protecting reef—an extraordinary fact, as he observes. KINGSTON is the township, 169 miles south-east of Adelaide, and has a population of about 400. It will be the terminus of the railway, forty-eight miles in length, now being constructed to NARRACORTE, a thriving town in a pastoral district, 222 miles east of Adelaide, and having a population of about 1200. The South Australians are tapping Victoria just as Victoria has tapped New South Wales at Echuca and at Albury. Narracoorte is at the commencement of by far the finest tract of country, for wheat and wool, that has yet been discovered in Australia. This fertile tract is chiefly in Victoria, and Mr. Cooke states that it comprises three times the extent of all the arable land at present under wheat cultivation in South Australia, Victoria, and New South Wales. As the *Argus* remarks on the 3rd August:—"This Lacepede Bay line, it may be mentioned, is rapidly approaching completion, and a few months must show whether it will have the effect it has been alleged it cannot fail to have in attracting to South Australia the traffic of the western districts of Victoria."

GUICHEN BAY is south of Lacepede Bay; Robe is the township, 195 miles south-east of Adelaide.

CAPE NORTHUMBERLAND is in latitude, south, 38°.

PORT MACDONNELL is east of Cape Northumberland, and is the principal port of the district; it is 304 miles south-east of Adelaide.

V I C T O R I A .

CHAPTER I.

FROM GLENELG RIVER TO PORT PHILLIP, AND FROM GEELONG ROUND HOBSON'S BAY.

GLENELG RIVER, of Mitchell, in latitude, south, $38^{\circ} 5'$, and longitude, east, $140^{\circ} 58' 7.25''$, is a considerable stream, having no navigable outlet; and here commences the boundary line, the 141st meridian of longitude, which divides South Australia from Victoria; this runs north as far as the 26° latitude, south, when the 138th meridian of longitude becomes the boundary line, which continues north to the Gulf of Carpentaria, dividing South Australia from New South Wales and Queensland.

PORTLAND BAY, in latitude, south, $38^{\circ} 20'$, and longitude, east, $141^{\circ} 50'$, is the seaport of a very important pastoral and agricultural district. It is 234 miles south-west of Melbourne, and 300 miles east of Adelaide; and it is fifty-two miles from the inland town of Hamilton, 110 miles on the road from Ballarat to Adelaide. The town of PORTLAND was founded by Mr. E. Henty, in 1834, where he had a whaling depôt. The bay is twenty-four miles by twelve, and the town has a population of about 2364; the county, about 4537.

PORT FAIRY, in latitude, south, $38^{\circ} 25'$, and longitude, east, $142^{\circ} 14'$, is the seaport of a large agricultural and pastoral district. The town of BELFAST has a population of about 2484; is 186 miles west south-west of Melbourne, and 140 from Geelong. Along the line of coast to Warrnambool, Mr. William Rutledge owns a large tract of land of the most fertile character, upon which immense quantities of potatoes are annually raised and exported to all the colonies.

WARRNAMBOOL, in latitude, south, $38^{\circ} 24'$, and longitude, east, $142^{\circ} 29'$, is also a seaport of a large agricultural district, and is 170 miles south-west of Melbourne. It is distant from Geelong 120 miles. The population is about 4010; of the county, about 8598. Immense quantities of wheat, oats, and potatoes, are exported hence.

CAPE OTWAY, in latitude, south, $38^{\circ} 53'$, and longitude, east, $143^{\circ} 37'$, we sighted on 24th July, third day from Adelaide. It is sixty miles south-west of Port Phillip Heads. The Cape Otway

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Forest extends about sixteen miles back from the coast, and is said to be the finest in Australia. The timber is chiefly gum, very lofty and straight. Some of the sleepers of red gum having been used for twenty years on a tramway, were, when taken up, found to be as perfect as when put down. "A new map, showing the alienation and present occupation of lands in the colony has been compiled in the Lands Office. State forests and the commons are all clearly shown. Nearly all the sold land is to the west of the North-Eastern Railway, the only districts to the east of that line in which any large area has been alienated, being in the neighbourhood of Melbourne, Mansfield, Beechworth, and Sale. Most of the land west of Melbourne, and south of the Dividing Range, has been alienated in fee simple, the only large area in the hands of the Crown being the forest country north of Cape Otway, and the tracts of sandy heath and stringy bark forests which extend from Portland to Penola. North of the Dividing Range large tracts of land are still in the hands of the Crown. A glance at the map will convey a very good idea of the direction in which the tide of population is now flowing."

APOLLO BAY is north-east of Cape Otway.

LOUTIT BAY is north-east of Apollo Bay, between it and Queenscliff.

PORT PHILLIP HEADS.—The entrance is two miles across. Point Lonsdale is on the west, and Point Nepean on the east side.

PORT PHILLIP BAY is forty miles long, and nearly as broad, and has an area of over 800 square miles. The south is the deeper channel; the west is easier navigation, and shorter.

LAKE CONNEWARRE is west of Queenscliff; and the Barwon, after passing Geelong, through this lake empties itself into the sea.

QUEENSCLIFF is a favourite watering place on the peninsula, west of the entrance to Port Phillip Bay, upon which two lighthouses are erected. It is thirty-two miles due south of Melbourne by water, and sixty-three miles by land. It has a population of about 2000; and several good hotels, as well as baths, and a Mechanics' Institute. The town is situated on elevated land about eighty feet above high water, and within the influence of the invigorating southern breezes; here a fine view may be had of all the vessels as they enter or depart through the heads. It is eighteen miles by road to Geelong, to which coaches ply daily, and recreation steamers periodically visit it.

GEELONG, in latitude, south, $38^{\circ} 9'$, and longitude, east, $144^{\circ} 21'$, is situated in Corio Bay, a beautiful cove, and is forty-five miles south-west of Melbourne, with which there is railway communication, as well as by steamer daily. Since the removal of the sand-bar the harbour has good anchorage close up to the town on the northern shore, and is well sheltered. The population is about 20,000. It is the seaport of a very extensive pastoral and

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agricultural district, and in the neighbourhood are vineyards and orchards, as well as mansions and villas, the seats of many wealthy merchants and squatters; and from the eminences all around beautiful views of the cove can be obtained. The town is well drained, being situated on elevated ground sloping down to the water. It has extensive and tastefully laid out Botanical Gardens; the large dam immediately facing the railway station has been transformed into a beautiful garden, the walks shaded by willow trees, and, unlike the public gardens in Melbourne, seats abound under the shade of the trees—thus affording, almost in the centre of the town, a delightful retreat on a hot, windy, and dusty day. The town is lighted with gas, the shops are most attractive, and goods can be purchased as reasonably as in Melbourne. This was formerly considered the second city of importance in Victoria, but now Ballarat is on an equality in that respect. The clock-tower, in the centre of Market square, with an excellent clock, was the gift of Mr. James Austen, first mayor of Geelong, now of Glastonbury Abbey, Somersetshire. The Town Hall, Hospital, Benevolent Asylum, Post-office, Mechanics' Institute, Chamber of Commerce, the Grammar School, and Scotch College—most excellent schools, from which the youths have distinguished themselves at English Universities—eight banks, and several insurance offices, are substantial as well as highly ornamental. There are four Episcopal churches, one Free Church, two Roman Catholic, two Wesleyan, five Presbyterian, three Baptist, three Primitive Methodist, one Congregational church, and a synagogue. Commodious hotels afford every accommodation to the numerous visitors to this charmingly situated town. During the spring, summer, and autumn, visitors flock hereto, to enjoy the bathing; for so well sheltered is Corio Bay that four companies have erected very capacious bathing establishments. Four woollen mills are in full work—the "Victoria," "Albion," "Corio," and "Collins"—which turn out very excellent tweeds, doeskins, shawls and blankets, made from unadulterated wool direct from the sheep's backs. There are five wool brokers, all of whom have ample storage, and two have erected very extensive new buildings. Since the removal of the before-mentioned bar—to deepen which to a depth of twenty-one feet six inches cost £60,000—from four jetties many ships of the largest tonnage now load with wool from the stations in the western districts (to which this harbour is the natural outlet,) and sail direct for Europe and America. The salubrity of the air of Geelong, and excellence of the education imparted, cause the ladies' seminaries, as well as the colleges, to be well patronised, rendering an English education unnecessary to residents of the Western districts. This was the locality to which—from Sydney—the explorers, Hume and Hovell, penetrated, or at a distance saw, in 1824, when the blacks told them the water was called "Geelong."

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COBB AND CO.'S WESTERN DISTRICT ROUTES:—

GEELONG, BELFAST, AND HAMILTON LINES,

Via Winchelsea, Birregurra, Colac, Camperdown, Terang, Mortlake, and Warrnambool. Distances, and night and day coach fares.

Daily Line.	Miles from Geelong.	Fares from Geelong.
From Geelong ..	—	—
To Winchelsea ..	23	£0 5 0
„ Birregurra ..	32	0 7 6
„ Colac ..	46	0 10 0
„ Stonyford ..	61	0 13 6
„ Camperdown ..	75	0 17 6
„ Terang ..	89	1 0 0
„ Mortlake ..	103	1 2 6
„ Panmure ..	104	1 2 6
„ Warrnambool ..	120	1 5 0
„ Belfast ..	140	1 10 0

From Belfast to Hamilton is 56 miles.

Tri-Weekly.	Miles from Geelong.	Fares from Geelong.
To Hexham ..	112	£1 5 0
„ Caramut ..	124	1 7 6
„ Penshurst ..	139	1 12 6
„ Hamilton ..	156	2 0 0

From Hamilton to Portland is 52 miles.

GEELONG, MORTLAKE, AND WARRNAMBOOL,

Via Inverleigh, Cressy, Lismore, and Darlington. (Twice a week.)

	Miles from Geelong.	Fares from Geelong.
From Geelong ..	—	—
To Murgheboluc ..	11	£0 4 0
„ Inverleigh ..	18	0 5 0
„ Hesse ..	28	0 10 0
„ Cressy ..	43	0 15 0
„ Berry Bank ..	53	0 17 6
„ Lismore ..	60	0 17 6
„ Derrinallum ..	67	1 0 0
„ Darlington ..	78	1 0 0
„ Mortlake ..	92	1 2 6
„ Ellerslie ..	101	1 5 0
„ Ballangeich ..	107	1 5 0
„ Purnim ..	112	1 5 0
„ Woodford ..	120	1 5 0
„ Warrnambool ..	124	1 5 0

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ARARAT, HAMILTON, AND PORTLAND.

(Daily Line.)

From Ararat	Miles from Ararat.	Fares from Ararat.
To Marcona ..	10	£0 4 0
„ Junction ..	21	0 10 0
„ Glen Thompson ..	36	0 15 0
„ Dunkeld ..	47	1 0 0
„ Hamilton ..	67	1 5 0
„ Branxholme ..	83	1 12 6
„ Condah ..	91	1 15 0
„ Heywood ..	105	2 0 0
„ Portland ..	119	2 5 0

ARARAT AND BALLARAT,

Via Junction, Wickliffe, Streatham, &c., with branch from
Wickliffe to Warrnambool. (Tri-Weekly.)

From Ararat	Miles from Ararat.	Fares from Ararat.
To Marcona ..	10	£0 4 0
„ Kiora ..	15	0 7 6
„ Wickliffe ..	33	0 12 6
„ Lake Bolac ..	40	0 15 0
„ Streatham ..	53	1 0 0
„ Skipton ..	70	1 7 6
„ Lintons ..	82	1 12 6
„ Smythesdale ..	90	1 15 0
„ Ballarat ..	102	1 17 6
„ Chatsworth ..	45	0 17 6
„ Caramut ..	55	1 0 0
„ Woolsthorpe ..	73	1 5 0
„ Koroit ..	81	1 7 6
„ Warrnambool ..	93	1 10 0

HAMILTON AND APSLEY LINE.

(Tri-Weekly.)

From Hamilton	Miles from Hamilton.	Fares from Hamilton.
To Cavendish ..	18	£0 7 6
„ Balmoral ..	45	1 0 0
„ Harrow ..	63	1 7 6
„ Edenhope ..	84	1 15 0
„ Apsley ..	98	2 0 1

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HAMILTON, PENOLA, AND MOUNT GAMBIER LINE,

Thence to Adelaide (Tri-Weekly.)

	Miles from Hamilton.	Fares from Hamilton.
From Hamilton, daily	—	—
To Redruth	12	£0 5 0
„ Coleraine	22	0 7 6
„ Casterton	40	0 15 0
„ Lake Mundy	60	1 10 0
„ Penola	80	1 15 0

which is 236 miles from Geelong and 272 from Adelaide.

From Penola to Narracoorte is 34 miles; thence to Kingston, 54; thence to Meningie, 95. Here Lake Alexandrina, 40 miles wide, is crossed by steamer in four hours, to Milang, 48 miles south-east of Adelaide. Thence to Strathalbyn, 14 miles; and thence to Adelaide, 35 miles,—in all 352 miles from Hamilton, and 272 from Penola.

PORTLAND AND CASTERTON LINE.

(Tri-Weekly.)

	Miles from Portland.	Fares from Portland.
From Portland	—	—
To Heywood	16	£0 5 0
„ Hotspur	22	0 10 0
„ Digby	41	0 15 0
„ Merino	47	0 17 6
„ Sandford	58	1 2 6
„ Casterton	61	1 5 0

CASTERTON AND MOUNT GAMBIER,

Via Heathfield. (Tri-Weekly.)

	Miles from Casterton.	Fares from Casterton.
From Casterton	—	—
To Heathfield	15	£0 10 0
„ Argyle	20	0 12 6
„ Lindsay	32	1 0 0
„ Mount Gambier	54	1 10 0

POINT HENRY is off Geelong Harbour.

From Geelong to the Werribee the tract of country skirting the western shores is owned by Messrs. James Austen, G. Fairbairn, and T. Armitage; whilst the land from the Werribee—twenty miles from Melbourne to Williamstown,—is owned by Messrs. Thomas and Andrew Chirnside, who have erected splendid mansions in the locality, and whose numerous flocks cover the plains.

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WILLIAMSTOWN is a port on the south-west shore of Hobson's Bay, distant seven miles from Melbourne by railway. It is opposite to Sandridge. There are commodious piers, patent slips, ship building yards, and the Alfred Graving Dock—the largest in the Southern Hemisphere. The population of the town is about 7500. At Gellibrand's Point, at the extreme end of the peninsula, upon which Williamstown stands, a lighthouse formerly stood, to guide vessels at night coming up the bay; but now, in lieu thereof, is a lightship one mile and a half further down the bay.

SANDRIDGE, the port of Melbourne, is situated three miles south of Melbourne. There are two long piers, one the town pier, the other the Hobson's Bay Railway Company's, whose railway conveys goods from the ships' sides to Melbourne, at intervals during the day. The railway pier is of great length, and the very largest vessels can load and unload with the utmost rapidity, and with every necessary appliance. The population of Sandridge is about 7000, and there are several good hotels, and ship chandlers' stores.

ST. KILDA is a fashionable watering place on the east shore of Port Phillip Bay, four miles from Melbourne. There are several bathing establishments and fine hotels. Trains run thereto every twenty or thirty minutes during the day, and a large number of persons go in to and out of town daily; residing in the beautiful mansions and villas so charmingly situated. The population is about 10,000.

BRIGHTON is also a watering place on the east shore of Port Phillip Bay, ten miles from Melbourne, and about six south-east of St. Kilda. It has a population of about 3000; has fine hotels, baths, and numerous mansions and villas; and trains start about every half-hour from either end of the line.

FRANKSTOWN is a small township, having about fifty inhabitants, on the south-east shore of Port Phillip Bay. It is twenty-nine miles from Melbourne. The climate is most salubrious. A fishing trade is here carried on.

MORDIALLOC is a township sixteen miles south-east of Melbourne, on Mordialloc Creek. The population is about 400. There are two good hotels, and it is a favourite resort for picnic, angling, boating, and shooting parties.

MOERINGTON, formerly called Schnapper Point, is a township agreeably situated on the south-eastern shore of Port Phillip, about thirty-five miles from Melbourne. In the summer time it is much frequented, and there are some good hotels. The population of the town and district is about 7000. A daily coach starts from Melbourne, passing through all the townships on the east side of the bay.

DROMANA is a township on the east shore of Port Phillip Bay,

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in the Western Port district, about twelve miles from Schnapper Point. The population is about 100. There are two hotels.

SORRENTO is a watering place, lately established by the Ocean Amphitheatre Company, through the enterprise of the chief promoter, Mr. George Coppin. It is situated just within the bight, on the south-east shore of Port Phillip Bay, and commands a fine view of the ocean, which is reached in two miles across. The company owns a fine steamer, the *Golden Crown*, which daily, during the summer, plies to and from Sorrento. Such crowds avail themselves of it, that Sorrento appears likely to become of some importance. A first-class hotel is well patronised.

PORTSEA is also a watering place on the south-east shore of Port Phillip Bay, adjoining Sorrento, and here, also, is a well-patronised hotel.

CHAPTER II.

MELBOURNE AND SUBURBS.

MELBOURNE, in latitude, south, 37° 49' 23", and longitude, east, 144° 58' 35", is situated eight miles up the Yarra Yarra River, which has a very tortuous course. It has extensive wharves, which have, of late years, been much enlarged; and opposite the Queen's Wharf the river has been widened to allow vessels to turn round. On the new wharf, south side of the Yarra, is a fifty-ton steam crane.

When we call to mind what met our view when we landed here in 1852—viz., a half-built town, lighted with colza oil, and the whole population in the highest state of excitement, the majority hastening away to the diggings in battalions, armed *cap-à-pie*—and contrast its then appearance with its present magnificence, we cannot but marvel that, in so short a period as twenty-three years, a city like it could have sprung up, abounding with such manifest wealth. Every street, every alley, and bye-way, almost every house to the attics, is now well lighted with gas, supplied by no less than three companies. The streets are thronged with handsome women, veritable denizens of the soil, fashionably and really tastefully attired, "doing the block," patrolling Collins-street, or gracefully reclining in carriages of the most modern build, drawn by sleek horses, with well-fed lackeys in livery perched on the box. And, in place of the rough digger of former times, with his red sash, long beard, and high Napoleon boots, and who, out of bravado, might have breakfasted on five-pound notes between sandwiches, and domineered down Collins-street—may now be seen good-looking youths, bearing in their carriage the veritable Roman fall, and treading the identical pavement formerly monopolised by the hirsute sons of toil. "*O tempora, O mores!*"

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Those magnificent buildings, the Town Hall and the Post Office, each costing over £100,000; the Public Library, the Museum, the Treasury, Mint, Parliament Houses, churches and chapels; the costly banks and insurance offices; the palatial edifices of the soft goods men in Flinders-lane; the numerous plate-glass fronts, within which are so temptingly displayed silk goods, and abundance of jewellery and racing cups, with every article of utility or "vertu"—all attest the progress the colony has made; as does the critical taste evinced by the frequenters of the opera and Theatre Royal. But, to our mind, a returned absentee will be more forcibly struck by the vastness of the suburbs—Carlton, Fitzroy, Hotham, East Melbourne, Emerald Hill, Prahran, St. Kilda, Brighton, Williamstown, Sandridge, and many others of lesser import; the innumerable terraces and rows of houses commanding high rents; the villas and beautiful gardens full of rare trees and exotics, such as camellias, rhododendrons and azalias; and that ever to be remembered feat of Mr. Clement Hodgkinson, the reclamation of a barren piece of ground, full of holes, and covered with rubbish, which he transformed into the present beautiful Fitzroy Gardens and Treasury Gardens. These and the Botanical Gardens, Carlton Gardens, Flagstaff, and other reserves, in all 2000 acres, will be very material to the health of the city should it ever be crowded. Besides the districts of Brighton and St. Kilda being able to boast of fine mansions, within a few years, Toorak—four miles south-east of Melbourne—has become dotted all around with large residences, and grounds well kept, and, from the eminences on all sides, commanding extensive views. Here abide many of the wealthiest squatters in the colony—men with incomes from their stations of from £5000 to £20,000, and even more per annum—in mansions almost as large, and erected with infinitely more taste, than is the Government House, upon which so much money has been lavished. A visit to this beautiful locality, all elevated and undulating country, will well repay the tourist.

YAN YEAN RESERVOIR IN 1875.—From the Yan Yean Water Works' Department we have been politely furnished with the following particulars of this vast artificial lake, two and a half miles across, and nine miles in circumference:—"Melbourne, together with its numerous suburbs, derives its magnificent water supply from the Plenty ranges, a chain of hills attaining, in places, an altitude of 2500 feet above sea level, situated thirty miles to the northward of the city; and here, amongst the timbered mount and fern-clad dell, the River Plenty and its multitudinous tributaries have their sources. A watershed area of sixty square miles, densely clothed with the varieties of Australian timber and shrubs, is here reserved in the interest of that busy hive of beings congregated by the shores of Hobson's Bay and the "ever-flowing" Yarra Yarra. The drainage waters pour down the valley of the Plenty for some miles to a point about twenty-two miles from Melbourne, where they are diverted from their natural

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course and conducted, by means of an open channel and a tunnel, into the Yan Yean Reservoir. The reservoir is 1400 acres in extent, and has an average depth of eighteen feet, the maximum being twenty-five feet. It will store 6400 millions gallons, or a three-years' supply for a population of 200,000, at the rate of thirty gallons per head per day. This immense body of water is impounded in the valley of one of the tributaries of the Plenty River by an embankment 3159 feet in length, thirty feet in height, 170 feet wide at the base, and twenty feet wide at the top; the inner slope being three to one, and the outer two to one.

"The water for the supply of Melbourne and suburbs is conducted from the Yan Yean Reservoir, twenty miles north-east of Melbourne, by a dressed stone aqueduct five miles long, and a brick aqueduct one mile and a quarter long, to the Pipe Head Reservoir at Morang. This is a brick-lined basin of three million gallons capacity. From it is supplied the two cast-iron mains of thirty inches and twenty-seven inches diameter respectively, which convey the supply thence to Preston, a distance of six miles and a half. These mains can, when required, carry to Preston twenty-five millions gallons per day. They are connected with Preston Reservoir, a service-basin built in bluestone, and capable of holding sixteen millions gallons. From this point three mains—viz., two of twenty-four inches diameter and one of eighteen inches diameter—carry the water the remaining distance of seven miles to Melbourne, where, by a system of reticulation, involving the use of over 300 miles of cast-iron pipes, of diameters ranging from three to fifteen inches, the waters of the Yan Yean are dispersed amongst a population of 230,000 persons, residing in 46,000 tenements; extending from Essendon to Brighton, a distance of thirteen miles, and from Williamstown to Kew, nine miles. The cost of this grand water-supply system has been about £1,300,000, and a yearly revenue of about £80,000 is now derivable from it by a rate of eightpence in the pound on the annual value of all property supplied."

The city is abundantly supplied with water, as well for garden as for domestic purposes. The water—the reservoir being 600 feet above high tide in the Yarra—is conveyed to the tops of the loftiest buildings; and, in case of fire, the great pressure causes the hydrants, by which the streets are daily watered, to discharge so effectively to any height that the devouring element is speedily restrained within limits; and to this wonderful reservoir is due the luxuriant appearance of the reserves, and highly-cultivated gardens around Melbourne and its suburbs.

We are not aware that any other colony than Victoria holds out such an inducement as gratuitous education to persons of small capital to emigrate thereto, and which system is carried out at a cost of over £600,000 per annum to the State; the parents only paying for books used at home. The teachers are well qualified, and are entitled to pensions after a certain term of service. Such is the system

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of gratuitous education, compulsorily to be availed of by every child in the colony—if not otherwise taught. As in Geelong, there are around Melbourne many private schools, both male and female, whose professors—men of eminent attainments, engaged at high salaries—impart to youth the best education. The University is elsewhere alluded to.

Did space permit, we would dilate as much as we desire upon many matters of interest, such as the railways in course of reticulating every district of importance; the good roads permeating the whole colony, through the instrumentality of the shire councils; and, above all, the goldfields, which still annually yield about £5,000,000. Large though the amount be it is a diminution, partially to be accounted for by the decrease in the number of miners, who, having toiled for years and reared large families, have abandoned the pursuit, and no new blood has been imported to take their place. Although just now a depression exists in mining affairs, doubtless it is but transient, for none can doubt the fact of illimitable golden resources remaining in Victoria—the portion hitherto extracted being infinitesimal as compared to the area of the quartz reefs, known to be auriferous, and as yet untouched; the simple reason being that quartz cannot be manipulated without capital, and men already rich decline adventuring.

It is an anomaly to observe athletic miners walking about idle whilst farmers and householders require servants, but a miner is of a class *sui generis*, and prefers to migrate rather than to work at farm labour. Skilled mechanics readily obtain high wages, *e.g.*, eleven or twelve shillings per day of eight hours for stone-masons. The Victorian Parliament has been apathetic about enacting remedial laws as to *bonâ fide* leasing auriferous land, and prospecting for gold, by large Government grants. We maintain that £100,000 per annum could be profitably expended by Government in prospecting; as new discoveries might restore former vitality to the colony, although the smallest, yet the richest and most populous of the Australian group. Assuredly, however, the decadence of the interest, which far more than any other has contributed to its past prosperity, will, if it continue, ultimately affect every class in the community, little as they now foresee the fact; neither will they, so long as a plethora of riches earned in the past remains to be drawn upon. The departure to New Zealand and to the Cape of men—as to physique, the very pick of the population—is a national loss, as only the soundest constitutioned men are able to work with the pick for eight hours, at a depth of 500 feet, perspiring all the time the water trickles down upon them in the drives. We think an effort should be made to keep these men in the colony by convincing them that the gold is to be had by working hard, as they did formerly. To prove the unprospected ground is for the national benefit, and so would be undertaken were the Parliament patriotic, and less disposed to bicker over trivialities.

But no! the political party "out" is always scheming to get "in;" and the "ins" are at their wits' ends to keep in; believing in the £1500 per annum rather than being relegated to the "paltry £300 a year, with the perquisites," as Dr. O'Toole says (a free railway pass,) for four months' work in the year—not that we begrudge a reasonable sum to poor and talented men, as are many in the Assembly; which will compare favourably with that of any other colony in oratory or in independence; but sometimes there are two parties "out" in the cold—the one having amalgamated with the other, out go the "ins," who at once fraternise with the "outs" who did not get in; and so the Parliament wags on, a few—perhaps only a few—selfish men being enabled to impede all legislative progress.

As to the statement, which we have heard iterated and reiterated, that every ounce of gold has cost £6 per ounce, we are surprised that in this now wealthy and flourishing community such a preposterous theory can be advanced, for how many brought more than insignificant doles with them. Yet we are told the colony has flourished on its losses—the total of which at £2 per ounce would be £91,258,242 on 45,629,121 ounces, the amount exported. Facts prove the contrary, and that the goldfields alone have, in twenty-four years, accelerated the material progress of the colony more than, without them, she would have advanced in fifty years. We quite believe that, in interchange of commodities, gold has cost £4 per ounce, about its real value; but has gold or silver been paid which has not been returned out of the earth to somebody? If one person lost it, another gained; and so the wealth remains amongst the community, which, we think, has benefited enormously by introducing into the earth £4 of a commodity—labour—of trifling intrinsic value, but for the presence of gold; and the earth has restored £4 of *bonâ fide* gold in exchange for that which in England would not command half the amount; even in the colony this same labour in lieu of £2 per week would not command £1 per week at any other pursuit than gold mining. Consequently, the intrinsic value of the labour ought to be estimated at the price it would command in the absence of gold. The amount between it and the value of the gold raised, is sheer gain to the public; for, no matter who holds the gold, it becomes distributed, and confers a general benefit, which wool does not; although we must remember that very many wealthy squatters are living in magnificent style, keeping retinues of servants, and, in an indirect way, affording a vast amount of employment. They are now reaping the fruits of the pluck and endurance they exhibited in their youth, in going forth as pioneers in the wilderness; whilst others led an easy life in the towns. If, in twenty-four years, gold to the amount of £178,258,947 has been exported, and presuming that on an average 55,000 men have been engaged winning it, then, at £2 per week per man, the

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sum of £137,280,000 has been given in labour for an exchange of £178,258,947 of gold, leaving an absolute surplus profit of £40,978,947; of which a few millions must be deducted for machinery, the construction and erection of which has afforded employment to thousands of persons. Although the gold has quitted the colony, its equivalent remains.

CHAPTER III.

DISCOVERY OF AUSTRALIA—EXPLORATIONS BY OXLEY, HUME AND HOVELL, CUNNINGHAM, STURT, MITCHELL—ARRIVAL OF BATMAN.

IN the year 1770, Captain Cook, after visiting Tahiti and New Zealand, proceeded to explore the southern and eastern portion of Australia. He sighted Cape Howe, and discovered Botany Bay and Port Jackson; which latter in 1788 became a convict settlement, and the head quarters of subsequent exploration parties; Sydney being the capital of Australia.

In 1798 Captain Flinders and Dr. Bass, in a boat eight feet long, discovered Bass's Straits and entered Western Port. Subsequently they, in a larger vessel, went through to Sydney; then Lieutenant Grant taking this route discovered Portland Bay and Cape Otway.

In 1802 Lieutenant Murray, on a surveying expedition, discovered and entered Port Phillip Bay—named after Captain Phillip King, a governor of New South Wales. Shortly afterwards Captain Flinders visited it, and thus does he describe it:—"On the one hand it is capable of receiving and sheltering a larger fleet of ships than ever yet went to sea; whilst on the other, the entrance in its whole width is scarcely two miles, and nearly half of it is occupied by the rocks lying off Point Nepean."

In 1803 Colonel Collins was despatched—with 307 male prisoners, fifty marines, seventeen women, and seven children—to form a convict settlement at Port Phillip. "This was done," as a writer observes, the party landing and pitching their tents on the most barren and sandy spot to be found around this extensive inland sea. The scarcity of water and the general sterility of the soil at this particular spot,"—on the south-east portion of the bay, eight miles from the Heads—"induced the commandant to relinquish the settlement." And thus does a Hobart Town paper, in 1813, allude to the decease of Colonel Collins, and the removal of the party to Hobart Town:—"During Lord Hobart's administration, the present settlement was projected to be established at Port Phillip, in Bass's Straits. Colonel Collins was recommended from his abilities, long services, and local knowledge of the country and inhabitants, to have the command and direction of settling the infant colony; and accordingly received His Majesty's gracious appointment to be Lieutenant Governor

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thereof. In April, 1803, he sailed in His Majesty's ship *Calcutta*, accompanied by the ocean transport, having on board the ships most of the civil and military officers, &c., on whom devolved the solemn task of paying the last tribute of respect to his memory. In October, the same year, the ships arrived at their destined port, and the troops, prisoners' stores, &c., were disembarked; but a short residence proving that the spot was inadequate to the purpose of a settlement, the whole of the establishment was removed early in the ensuing year to its present situation at the Derwent, where the Lieutenant Governor has constantly resided till this calamitous event, respected by us whilst living, and universally lamented in his death."

Highly infelicitous was the prognostication of the Lieutenant of the convoy ship *Calcutta*—"the kangaroo seems to reign undisturbed lord of the soil, a dominion, which, by the evacuation of Port Phillip, he is likely to retain for ages."

Notwithstanding the abortive attempt to found a convict settlement in Port Phillip, in 1803, a second attempt was made in 1826, and Western Port was the site selected; and here were located some prisoners and their officers. In a few months they got weary of the inauspicious looking sands and swamps, and departed; believing the whole country to be infertile, and in utter ignorance of the rich Barrabool Hills, but a few miles inland, on the west side of Port Phillip, which they had not the energy to explore.

The Blue Mountains had hitherto proved an impenetrable barrier to exploration westward of Sydney. In 1813 Mr. Evans, conducting a government survey, "discovered a route through the dense forests with which they are clothed, and the opening up of the fine pastoral lands beyond them, which are watered by the Macquarie and the Lachlan, was the result."

In 1816 Mr. Oxley, following down the course of the Lachlan, discovered an extensive prairie district to the southward. In 1823 he was sent to examine Moreton Bay; and, proceeding north, he explored Port Curtis and the Boyne River.

In 1824 Hovell and Hume started together to explore the country to the south-west. They passed an extensive territory, watered by the Murrumbidgee, discovered the Australian Alps, and advanced to the western shores of Port Phillip.

In 1825 Allan Cunningham, the botanist, on an expedition with Sir Thomas Mitchell, explored the fertile valley of the Hunter. In 1827, crossing the Dividing Range, he travelled northerly over the Liverpool Plains, as well as over fine grazing country, 500 feet above sea level, to the eastward, which he called New England. Further to the south he discovered the prairie land of the Darling Downs, and, reaching the latitude of Moreton Bay, he explored the River Brisbane to its source.

In 1828 Captain Sturt, travelling westward from Wellington Valley along the banks of the Macquarie, discovered open and

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verdant country to the north-west. Then he discovered the Darling, traced it down to 145° 40' east longitude, and "returned impressed with the idea that it, as well as the other western rivers, flowed into a great inland sea."

In 1830 Captain Sturt and Mr. George Macleay proceeded in boats conveyed across the country to the Murrumbidgee, which they traced down to the Murray; and following this down—exploring also the Darling—they found it empty into Lake Alexandrina, and, through a narrow opening at the Murray mouth, it disembogued into Encounter Bay, south-east of Adelaide.

The Rivers Murray, Murrumbidgee, and Darling we allude to elsewhere, giving Captain Sturt's graphic description.

In 1831 Sir Thomas—then Major—Mitchell, with an exploring party, fitted out by the New South Wales Government, proceeded on an expedition to survey the Darling and its tributaries. He was accompanied by Allan Cunningham, who unfortunately was lost in the bush into which he had wandered in search of plants. Sir Thomas then traced the Bogan down to its junction with the Darling, below which he erected a stockade—Fort Bourke—and thence he surveyed the Darling as far as latitude, south, 23° 24'.

The year 1835 witnessed the arrival of John Batman from Tasmania, that most beautiful, fertile, and healthy island across the straits. The traveller, in proceeding south from Launceston, along the coach road—the air in springtime redolent with perfume from the blossoming thorn hedges, twenty feet high on either side of the road—will, after a few miles, obtain a fine view of Ben Lomond, a lofty mountain 5000 feet above the sea. On the top of this mountain, on the 31st December, 1834, Batman and several friends had assembled one moonlight night, and were seated over glasses of toddy, waiting to see the old year out and the new one in; and here it was that the scheme to found a company to take up, by purchase from the natives, pasture land in Port Phillip was concocted, as Mr. Samms, the Deputy-Sheriff, one of the party, fully detailed, and gave to us an original manuscript copy of Batman's report to the governor, as quoted from below. Batman having stated that, in 1827, Hume had informed him as to the fertility of the locality, it was agreed that Batman should proceed on behalf of the association and secure the land. The association having been formed, consisted of the following members, who furnished Batman with the necessary funds to fit out a small vessel:—

C. Swanston ..	Colonial Secretary.
T. Bannister ..	Sheriff.
James Simpson ..	Merchant, Hobart Town.
J. T. Gellibrand ..	Attorney-General.
Jas. and Wm. Robertson ..	Merchants, Hobart Town.
Henry Arthur ..	Nephew of Governor Arthur.
John H. Wedge .	Surveyor.

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John Sinclair	Wealthy Settler, Evandale.
J. T. Calicott	Postmaster, Hobart Town.
A. Cotterell	..	..	Chief Constable, Launceston.
W. G. Samms	..	..	Under Sheriff, Launceston.
John Connelly	..	..	Merchant, Launceston.
George Mercer	..	..	England, per J. Connelly.

These names will ever be memorable as the originators of the scheme resulting in the colonisation of Victoria.

On 12th May, 1835, Batman sailed from Launceston, with his seven Sydney natives, and arrived at Port Phillip on 26th May. By aid of his natives he made friends with the chiefs, and effected some large purchases on most favourable terms. Batman, in a despatch to the governor, after his return, says, "After some time and full explanation, I found eight chiefs amongst them who possessed the whole of the territory near Port Phillip. Three brothers, all of the same name, were the principal chiefs; and two of them, men six feet high, very good looking; the other not so tall, but stouter. The chiefs were fine men. After explanation of what my object was, I purchased five large tracts of land from them—about 600,000 acres, more or less—and delivered over to them blankets, knives, looking-glasses, tomahawks, beads, scissors, flour, &c., as payment for the land; and also agreed to give them a tribute or rent yearly. The parchment, the eight chiefs signed this afternoon, delivering to me some of the soil, each of them, as giving me full possession of the tracts of land." The signing of the deeds, conveying the tracts of land—"Doutta Galla" and Geelong—was most original. They travelled about, the chiefs marking the trees bounding the area they ceded, we think from "Indented Heads" to "Merri Merri Creek," including Geelong and Melbourne; and Batman continues: "One of my natives went to a tree out of sight of the women (not permitted to know their free-masonry signs) and made the Sydney natives' mark. After this was done, I took with me two or three of my natives to the principal chief and showed him the mark on the tree. This he knew immediately, and pointed to the knocking out of the teeth. The mark is always made when the ceremony of knocking out the teeth in the front is done. He took the tomahawk and cut out in the bark of the tree his mark which is attached to the deed; and is the signature of the country and tribe." As to one little paddock of 100,000 acres, "known by the name of Indented Heads, but called by us Geelong, extending across from Geelong harbour about due south for ten miles, more or less, to the head of Port Phillip, taking in the whole neck or tract of land," Mr. Wedge drew the conveyance in such concise terms, as are to be commended to solicitors, prone to use verbose language. The document commences in the usual way, "Know all men that we, three brothers, Jagga Jagga," and sets forth, that the land is conveyed (only Geelong by this deed) "for and in consideration of twenty

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pairs of blankets, thirty knives, twelve tomahawks, ten looking-glasses, twelve pairs of scissors, fifty handkerchiefs, twelve red shirts, four flannel jackets, four suits of clothes, and fifty pounds of flour, delivered to us by John Batman—to John Batman, his heirs, &c. In witness whereof, we have hereunto affixed our seals to these presents, and have signed the same.” That is to say, by marking the trees; but a yearly rental was to be paid likewise.

Smile as we may, at the trivial consideration given by Batman for Geelong and Melbourne, it becomes questionable how far the Home Secretary or British Government was justified in ignoring a treaty which, if not equitable, could have been so made; a treaty securing to the natives a small yearly tribute or rent, was more just than utter confiscation, and driving back tens of thousands of blacks; at this time, it is said, 7000 resided in the locality of Melbourne, and to all intents and purposes were the sons of the soil.

CHAPTER IV.

DISCOVERY OF AUSTRALIA FELIX—EXPLORATIONS BY MITCHELL, GREY, EYRE, STRZELECKI, LEICARDT, STURT, KENNEDY, GREGORY.

IN 1836, Sir Thomas Mitchell, proceeding south-westerly, from Bathurst, traversed the country watered by the Lachlan, Murrumbidgee, and Murray. Across the country watered by the Wimmera, he discovered the Glenelg River, which he navigated in a canvas boat down to the sea; but the outlet he found to be impracticable for vessels. “He then proceeded eastwards towards Portland, and in his journey hence he was not a little surprised to meet two gentlemen driving tandem through the beautiful park-like country, which he imagined had never before met the gaze of a white man.” These gentlemen belonged to a whaling station established two years previously by Messrs. Henty, merchants, from Tasmania. On his return journey he crossed and explored that magnificent territory now the colony of Victoria, which he designated “Australia Felix,” from its rich and fertile aspect. He thus describes it in his journal:—“To the westward the noble outline of the Grampian Mountains terminated a view extending over vast open plains, fringed with forests and embellished with lakes. To the northward appeared other more accessible-looking hills, some being slightly wooded, others green, and upon their summits long grassy vales and ridges intervened; while to the eastward the open plain extended as far as the eye could reach. Certainly a land more favourable for colonisation could not be found. Flocks might be turned out upon its hills, or the plough at once set agoing on the plains. No primeval forests

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required to be first rooted out here; although there was enough of wood for all purposes of utility, adorning the country just as much as a painter could wish."

In 1837 Captain George Grey and Lieutenant Lushington embarked on an expedition "to gain information as to the real state of north-west Australia, its resources, and the course and direction of its rivers and mountain ranges; to search for and record all information regarding the natural productions of the country, and all details that might bear upon its capabilities or the reverse." They discovered the Glenelg, of which we elsewhere give Captain Grey's enchanting description.

In 1839 Captain Grey, with a party of eleven persons, left Swan River for the purpose of exploring the country about Shark's Bay, and to this expedition we allude elsewhere.

In the year 1840 Mr. E. G. Eyre was despatched from Adelaide to open up overland communication with West Australia. Elsewhere this journey is more fully alluded to.

In 1840 Count Strzelecki, from the Murrumbidgee River southwards, traversed the Australian Alps, "thence across Gipps Land to Corner Inlet, whence he penetrated the densest and wildest scrub in Australia."

In 1844 Dr. Leichardt started on an expedition from Moreton Bay to Port Essington, with seven volunteers,—animated by love of enterprise—a negro and two aborigines. They took with them seventeen horses, sixteen head of cattle, and pack bullocks, 1200 pounds of flour, and other provisions for seven months. They followed the valleys of the Burdekin and Lynd, skirted the shores of Carpentaria Gulf, and arrived safely in little more than four months' time, at the military settlement at Port Essington, after a journey of 3000 miles. His return journey was much protracted, owing to inadequate supplies, having to kill his bullocks and horses, and to live by his gun; but his friends were astounded and gratified at his reappearance at Sydney, after having given him up as lost.

In the year 1844 Captain Sturt started from Adelaide to explore the interior of the continent. He was accompanied by John McDouall Stuart. "Passing up the Murray and the Darling, they proceeded northwards to a well-watered ravine—Rocky Glen—where they remained six months, no rain having fallen during that time. The heat was so intense that every screw in their boxes was drawn, and all horn handles and combs split into fine laminæ. The lead dropped from their pencils, their finger nails became as brittle as glass, and their hair and the wool on their sheep ceased to grow. Scurvy attacked them all, and Mr. Poole, the second in command, perished. In order to avoid the scorching rays of the sun, they had excavated an underground chamber, to which they retired during the heat of the day." The rain having set in, Captain Sturt pushed

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ahead with four of his party, advancing through a region "which resembled an ocean whose mighty billows—fifty or sixty feet high—had become suddenly hardened into long parallel ridges of solid sand." This sandy desert, after 200 miles, became a stony one for thirty miles, and then ended in a vast plain of dried mud, "a boundless ploughed field, on which floods had settled and subsided," at 200 miles beyond the Stony Desert, and 150 miles from the centre of the continent, they were compelled to return, after suffering dreadful privations.

They made a second exploration from the dépôt. In seven days they reached and discovered Cooper's Creek; but, after proceeding northwards 200 miles, they again came upon "the Stony Desert and the illimitable ranges of red sand hills." Returning to Cooper's Creek, "they were overtaken by a hot wind or simoom, so violent and terrible that, had they encountered it in the desert, they would in all probability have perished." After an absence of nineteen months, they returned to Adelaide.

In 1846, Sir Thomas Mitchell, hearing the result of Leichardt's discoveries, did not proceed, as he intended, to Port Essington; but "Sir Thomas, keeping more to the westward, came upon what appeared to be the source of a large river flowing in a north-westerly direction, which he imagined was the upper branch of the Victoria, discovered by Stokes and Wickham, flowing into Cambridge Gulf on the north-west coast. After tracing this stream for about 150 miles towards Central Australia, Sir Thomas left the further prosecution of the survey of the river to Mr. Kennedy, one of his staff, who eventually found that the supposed Victoria suddenly made a course to the southward and became absorbed in the great central desert."

In 1847 Leichardt started to cross the continent, from Moreton Bay to Swan River. He took six whites and two blacks, with sixteen mules, fourteen horses, forty oxen, and 270 goats. He expected to be absent two years and a half, but up to the present time no remains of the expedition have been found.

Mr. Healey subsequently went to search for him, and followed up his tracks for 300 miles, from Moreton Bay, "to a spot where the natives declared they had destroyed the whole of the explorers." Subsequently he was traced to a spot eighty miles beyond this.

In 1848 Mr. Kennedy, from Sydney, proceeded to Rockingham Bay, on the east coast, to explore the region of Cape York. Of the thirteen persons who started, only one, an aboriginal—Kennedy's faithful black boy—survived. Elsewhere this disastrous expedition is alluded to.

In 1855 Mr. A. E. Gregory was commissioned by the Royal Society to explore north-western Australia. Landing at the Victoria of Stokes and Wickham, "after a south-easterly bearing in ascending its course, it was found finally to take a southerly direction; and by its winding course, it watered a large area of country, much of

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which consisted of good available land. At its mouth, in Cambridge Gulf, was a good harbour, with deep water."

In 1858, in the hope of ascertaining the fate of Leichardt, Mr. A. C. Gregory travelled from Brisbane to Adelaide, *via* Cooper's Creek, "and succeeded in tracing Mitchell's Victoria to quite another termination, to that supposed to belong to it, by its sanguine discoverer. The verdure that had captivated Mitchell had disappeared, leaving only a desiccated plain, and the river itself disappeared in the arid wastes of the Stony Desert;" but this expedition connected Sturt's with Mitchell's track, and showed a practicable route between Queensland and South Australia. Although he was unsuccessful in his search for Leichardt, he followed up what Healey had done. He passed beyond his tracks, and found a tree marked "L," eighty miles beyond the place where the natives said they had destroyed Leichardt's party. Unable to penetrate further into the interior, he descended the Barcoo and Cooper's Creek to South Australia.

CHAPTER V.

BURKE AND WILLS' EXPEDITION.

IN 1859, for some months, an advertisement appeared in the Melbourne *Argus* that a gentleman whose name was withheld would contribute £1000 towards the expenses of an expedition to explore Central Australia, on condition that a similar sum was subscribed by the public. A gross sum of £2500 was collected, and Parliament consented to an expenditure of £3000 in procuring camels from India. The management of the undertaking was confided to the Royal Society, who decided that a depôt should be formed at Cooper's Creek—which had been discovered by Captain Sturt, who struck it in latitude, south, 27° 44' and longitude, east, 140° 22', and traced it down to latitude, south, 27° 56' and longitude, east, 110°—from whence the explorers could obtain supplies. As leader of the expedition, Mr. Robert O'Hara Burke was selected, his sole qualification being that he was highly experienced as a police inspector. Yet this was the leader, totally ignorant of bush life, whom interest with the committee influenced it to select—in preference to competent and well-trying bush explorers—to guide a body of men across the continent. Although a brave and dashing police officer, he appears to have been a singularly incompetent leader. He was irritable, quarrelled at the very outset with some of the expedition, and possessed so little stability of purpose that he could keep no diary. He appears to have written in pencil a few sentences, and then freely to have torn out the leaves, leaving but a few disjointed memoranda. One entry is as follows:—"13th January, 1860. As I find it impossible to keep

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a regular diary, I shall jot down my ideas when I have an opportunity, and put the date." As some little excuse, it may be urged that Wills perseveringly to the last kept an excellent diary, otherwise little would have been known of their proceedings. Disastrously as the expedition eventuated, to their indomitable energy and pluck is due the early stocking of the interior, hitherto supposed to be a sandy desert, in place of a fine grazing country.

On the 20th August, 1860, this expedition—designated the Victorian Exploring Expedition—an imposing cavalcade, lavishly supplied with every conceivable necessary which money could purchase, started, with much *éclat*, from the Royal Park, Melbourne, amidst the acclamations of thousands, who bade them "God speed!" Mr. Burke was leader; Mr. G. T. Landells, who brought the camels from India, was second in command; William John Wills, surveyor and astronomer; Herman Beckler, medical officer and geologist; Ludwig Becker, artist, naturalist, and geologist; with ten white assistants and three *sepoys*—including John King. The party also took with them twenty-seven camels, horses, and baggage waggons. On the 16th October, in consequence of differences with Burke, Landells resigned and returned to Melbourne. This, of course, lessened the utility of the camels, and, perhaps, was the cause of their deaths, as he alone knew how to manage them. Dr. Beckler, for a like reason, also returned. They were then at Menindie, on the Darling, about 430 miles from Melbourne. Here Burke divided the party, he himself leading the advance party to Cooper's Creek. The second, under Mr. Wright, was to bring up the balance of the stores. In twenty days, after leaving Menindie, Burke, with eight men, reached Cooper's Creek, where he established a *dépôt*; and, in consequence of scarcity of water to the northward, he, with Wills, King, and Gray, proceeded in a westerly direction. Mr. Brahe was left in command of the party at this *dépôt*, with instructions, as he says, to remain for three months, and then to return to Menindie; but this assertion does not agree with that of Wills in the following letter. Poor Wills' last letter to his father, with death staring him in the face—"I think to live about four or five days"—is most touching. It runs thus (we copy from a photo-lithograph):—

"Cooper's Creek, June 27, 1861.

"Dr. Wills, Ballarat.

"My Dear Father,—These are probably the last lines you will ever get from me. We are on the point of starvation, not so much from the absolute want of food, but from the want of nutriment in what we can get. Our position, although more provoking is probably not so disagreeable as that of poor Harry and his companions. We have had every good luck, and made a most successful trip to Carpentaria and back to where we had every right to consider ourselves

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safe, having left a depôt here consisting of four men, twelve horses, and six camels. They had sufficient provisions to have lasted them twelve months with proper economy. We had also every right to expect that we should have been immediately followed up from Menindie, by another party with additional provisions, and everything necessary for forming a permanent depôt at Cooper's Creek. One party we left here had special instructions not to leave until our return, unless from absolute necessity. We left the creek with nominally three months' supply, but they were reckoned at little over the rate of half rations, and we calculated on having to eat some of the camels. By the greatest good luck at every turn, we crossed to the gulf through a good deal of fine country, almost in a straight line from here. On the other side the camels suffered considerably from wet, and we had to kill and jerk one soon after starting back. We had now been out a little more than two months, and found it necessary to reduce the rations considerably, and this began to tell upon all hands, but I felt it by far less than either of the others. The great scarcity and shyness of game, and our forced marches, prevented our supplying the deficiency from external sources to any great extent; but we never could have held out but for the crows and hawks, and the *portulac*. The latter is an excellent vegetable, and I believe secured our return to this place. We got back here in four months and four days, and found the party had left the creek the same day, and we were not in a fit state to follow them.

"I find I must close this that it may be planted, but I will write some more although it has not so good a chance of reaching you as this. You have a great claim on the committee, for their neglect. I leave you in sole charge of what is coming to me. The whole of my money I desire to leave to my sisters. Other matters I will leave for the present.

"Adieu, my dear father. Love to Tom, I think

(Sic.)

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to live about four or five days. My religious views are not the least changed, and I have not the least fear of their being so; my spirits excellent."

Mr. Brahe, it appears, after remaining four months and a half, and some of the party being attacked by scurvy, left Cooper's Creek for Menindie on 21st April, after burying some stores, and marking on a tree DIG. On the 7th day Mr. Brahe met Wright and party slowly advancing, owing to scurvy and want of water. Both returned to Cooper's Creek, and were ignorant that the *cache* had been disturbed by Burke and Wills, who had arrived at the camp a few hours later than Brahe had started therefrom, on the same day. At this very time both parties were distant but a two hours' march from each other. Wright and Brahe then set out on their return to Menindie. Four of the party, including Mr. Becker, died of scurvy.

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In the meantime, four search parties had been organised. One, under Mr. Walker, was sent to Rockhampton to strike across west to the Albert; another party under McKinlay was sent by the South Australian Government to search the country about Cooper's Creek; Landsborough was sent by ship to the Albert River, with directions to make for Central Mount Stewart; and Howitt was despatched to Cooper's Creek from Melbourne.

Howitt found John King living with the blacks, who had built him a hut and supplied him with food, but Burke and Wills had perished from starvation. It appears that, after forced marches, they had reached a point on the Flinders—not the Albert, which is west of it—within fifty miles of the shores of the Gulf of Carpentaria, within tidal influence of the same. On the 13th February, 1861, the poor fellows commenced to retrace their steps to Cooper's Creek, and the return journey was a most disastrous one. The camels knocked up, and one after another were left behind; and the only horse had to be killed for food. On 17th April, poor Gray—the only real bushman in the whole party—died of dysentery, and the others could with difficulty dig a hole to bury him, so emaciated had they become.

On the 21st April, Burke, Wills, and King, with the two remaining camels, reached Cooper's Creek, and from under the marked tree they extracted a box with some provisions, and a note coolly stating that Brahe's party had—all being well, with exception of one who had hurt his leg, and the six camels and twelve horses being in good condition—decamped and made for the Darling.

Burke and Wills paced slowly towards the settled districts by way of Mount Hopeless; the camels, tired out, could not proceed. "On the 8th May they were living on fish, which a friendly tribe of blacks had given them to eat. The blacks taught them how to make a sort of coarse bread from pounded seeds of a plant growing on the plains —'nardoo.' After the blacks left them, they remained for two months in the wilderness, growing weaker and weaker, and with no help on earth." Ignorant of bush life, they could not live as do the blacks, with whom they decided to go and live, but whose camp they found deserted.

Poor Wills could proceed no further; so, at his request, having placed eight days' pounded nardoo, water, and firewood within his reach, the others started to search for the natives, as their only chance of existence being prolonged by them. Wills then gave King a letter and his watch for his father.

On the second day out Burke complained of a great pain in his legs and back, and at eight o'clock next morning expired. King, then, after two days, returned to Wills, with three crows he had shot, and found him lying dead. He then fell in with the natives. "They appeared to feel great compassion for me, when they understood I was alone in the bush, and gave me plenty to eat. From

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this time they seemed to look upon me as one of themselves, and supplied me with fish and 'nardoo' regularly; they were very anxious to know where Mr. Burke lay, and one day, when we were fishing in the waterholes close by, I took them to the spot. On seeing his remains the whole party wept bitterly, and covered them with bushes."

On the 15th September Mr. Howitt, who headed the search party, reached Cooper's Creek, and says:—"I found King sitting in a hut, which the blacks had built for him. He presented a melancholy appearance, wasted to a shadow, and hardly to be distinguished as a civilised being, but by the remnants of clothes upon him. He seemed exceedingly weak, and I found it occasionally difficult to gather what he said. The natives were all gathered round, looking with a most gratified and delighted expression."

After distributing a large quantity of presents amongst the natives, Howitt's party, with King, returned to Melbourne, and were received with unbounded enthusiasm. The *Melbourne Advertiser* of the 4th December, 1861, remarked:—"A time will come when a belt of settlements will connect the shores of Port Phillip with those of the Gulf of Carpentaria; when, on the banks of the Albert or of the Flinders, a populous city will arise and will constitute the entrepôt of our commerce with the Indies, and when beaten roads will traverse the interior, and a line of electric telegraph will bisect the continent. The happy valley of Prince Rasselas was not more verdant or more fertile than much of the country passed through by the explorers whose loss we deplore; and it is certain that these beautiful solitudes will be rapidly occupied by the stocks and herds of the squatters. Agricultural settlements will follow, towns and villages will be established, and waves of population overflow and fertilise vast tracts of country which we have hitherto regarded as a sterile desert. These events will owe their initiation to the adventurous pioneers who first crossed the continent from sea to sea."

The remains of Burke and Wills were brought to Melbourne by Mr. Howitt. They were accorded a public funeral, and parliament voted £5000 for the erection of the monument which now stands at the top of Collins-street, and pensioned King, &c.

CHAPTER VI.

EXPLORATIONS OF JOHN McDOWALL STUART, JOHN MCKINLAY,
LANDSBOROUGH, COLONEL WARBURTON, JOHN FORREST,
ERNEST GILES, AND LEWIS.

IN 1858, John McDouall Stuart—an unrivalled bushman, who has always been fortunate in bringing back alive the members of his successive expeditions—started from Mount Eyre to the north-west of Lake Torrens, in search of sheep runs. "He accomplished one of the most arduous feats in all his travels, having, with one man only,

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pushed through a long tract of dense scrub and sand, with unusual rapidity, thus saving his own life and that of his companion." He was reduced to only two meals, upon which he and his companion existed during the 100 miles they traversed, through "a dreadful, dismal desert of heavy sand and spinifex, with mallee scrub very dense, and scarcely a mouthful for the horses to eat." He made other two expeditions, discovering some good country, well supplied with springs.

On 2nd March, 1860, with two men and thirteen horses, he started to cross the interior from his head-quarters, Chambers' Creek, in latitude, south, $29^{\circ} 30'$. On the seventh day, he noted—"To-day, I find, from observations of the sun, that I am now camped in the centre of Australia." In a north-easterly direction, they reached within 260 miles of Carpentaria Gulf, when they were driven back by the natives. They penetrated northward nearly to the 18° of south latitude.

On 29th November, 1860, he again started—the South Australian Parliament having voted £2000 for the purpose—with seven men and thirty horses. In latitude, south, 17° , they were driven back by the blacks, and an impenetrable scrub on all sides presented itself—"the horses would not face it; when forced, they made a rush through, tearing everything we had on, and wounding us severely, by running against the dead timber, which was as sharp as a lancet." On one occasion the horses were 106 hours without water. He was compelled to return; but, within one month after his return, he was despatched by government a third time. He discovered a passage through the scrub more to the westward of his former track; and, passing through a beautiful and fertile tropical region, watered by the Adelaide River, he reached the shores of the Indian Ocean and Arifura Sea, and there planted his flag, the Union Jack, on 24th July, 1862. They washed their hands in the sea, gathered shells, gave three cheers, and, at the foot of the lofty hill upon which the flag floated in the breeze, they deposited an air-tight can, recording—"Having crossed the continent from the Southern to the Indian Ocean, passing through the centre." They had left Adelaide on 26th October, 1861, and the most northern station of the colony on 21st January, 1862. In December, in the same year, they all reached Adelaide; but, owing to scurvy, Mr. Stuart's life was for some time despaired of. They were unaware, as they crossed the continent, that Burke and Wills had been the first to do so.

In August, 1861, Mr. John McKinlay, another old and experienced bushman, headed a search expedition sent out by the Adelaide government. It was called the "Burke Relief Expedition;" was well supplied with horses and camels; and, crossing Lake Torrens, then dry, they proceeded in a northerly direction. They found the remains of several Europeans, which they supposed to be Burke's

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party. The natives said they had eaten the white men. They were very warlike; surrounded the camp, and Mr. McKinlay was compelled to fire upon them, when they decamped.

Another party, under Mr. Hodgkinson, who brought supplies to Stuart from Blanchtown, informed him of the success of Burke and Wills in reaching the gulf. "He, however, pushed on to Cooper's Creek, and after visiting the graves of Burke and Wills, made an exploration of the country north and east, meeting, at that season of the year, with plenty of water. Finally, traversing a magnificent region, with fine pasture and good water, he succeeded in reaching the salt mangrove swamp, within the influence of the tide at the head of the Gulf of Carpentaria. He had thus crossed from south to north along a route more easterly than that of Stuart." He then made for Port Denison, Queensland, and returned by sea to South Australia.

On the 24th August, 1861, Mr. W. Landsborough sailed in the *Firefly*, from Brisbane, for the Albert River, Gulf of Carpentaria, whence he was to make for Central Mount Stuart, in the hope of finding traces of Burke and Wills, whose protracted absence had caused much uneasiness. Finding the route to be impracticable, owing to drought, he returned to the Albert, and, on 10th February, 1862, started overland for Melbourne. He struck the Warrego on 21st May, and having been hospitably entertained at the station of Messrs. Williams, 800 miles from Melbourne, made for the Darling, 220 miles distant, and on to Melbourne, where his successful journey caused much satisfaction, and he was enthusiastically received.

On 15th April, 1873, Colonel Warburton started from Alice Springs telegraph station, 1036 miles north of Adelaide, and 937 south of Port Darwin, traversing the country to the Oakover River, where, utterly exhausted, with only a few pounds of dried camel's flesh, they would have died, but for the hospitality of Messrs. Grant, Harper, and Anderson, of the De Grey River, the furthest outlying station-holders, who sent the party down—150 miles—to Roeburne (Tien-Tsin,) on the north-west coast.

On 1st April, 1874, Mr. John Forrest, and Mr. Alexander Forrest second in command, with five whites, two aboriginals, and twenty-one horses, left Champion Bay, travelling in a northerly direction to the Murchison, and ultimately they reached the Alberga River, traced it down, and arrived safely at the Peake telegraph station, 636 miles north of Adelaide, and 1337 south of Port Darwin, having encountered 600 miles of spinifex desert.

In December, 1874, Mr. Ernest Giles left Adelaide to examine the country intervening between South Australia and West Australia, and he found a practicable route to Perth, through the country lying between the twenty-eighth and thirtieth parallels of latitude. He is now absent on that expedition.

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On 23rd March, 1875, Mr. Lewis wrote to the South Australian government—who had equipped him—that his present expedition has been so far successful; that he has been enabled to examine and to map the hitherto unknown country between latitude, south, 25° 35', and 28° 35', and between longitude, east, 135° 50', and 139° 50', a block of land extending from Lake Hope to Eyre Creek, in Queensland, about 200 miles across, and stretching from the overland telegraph line to Sturt's Stony Desert.

CHAPTER VII.

PROGRESS OF VICTORIA—CONSTITUTION—DISTRICTS—COUNTIES.

APTLY did Sir Thomas, then Major Mitchell, write, with reference to Victoria, "We had at length discovered a country"—Australia Felix—"ready for the immediate reception of civilised man, and fit to become one of the great nations of the earth."

After the return of Batman, in 1835, to Launceston, from Port Phillip, he thus reported of it—"Beautiful land; kangaroo grass about ten inches high, and as green as a field of wheat; beautiful plains. I never saw anything equal to the land in my life. I was never so astonished in my life." He caused the utmost excitement amongst the Van Diemen's Land people, and John Pascoe Fawkner, having organised a party, sent a schooner over to the Yarra Yarra, where it arrived on the 29th August, and he, himself, reached there in October. He then built and opened the first public-house, cultivated the land, and disregarded all the warnings sent to him by Batman, that he was trespassing on the lands of the association, which was proceeding to stock the country. He so maintained his position that, by his energy, he earned the appellation of "the founder of Melbourne," although Batman had led the way, and by his success had induced Fawkner to follow; whilst Messrs. Edward and James Henty were the earliest colonisers of Victoria, having crossed over from Launceston, in 1834, founded a whaling station at Portland Bay, and commenced agricultural operations. This they did in defiance of the government of New South Wales, which had, in 1827, peremptorily refused permission to Messrs. Batman and Gellibrand to depasture cattle and sheep on the mainland.

Steadily increasing in population and wealth, the location on the Yarra at last attracted the attention of the government, and Captain Lonsdale arrived from Sydney, as the Lieutenant-Governor. In 1839 he became Superintendent of Port Phillip. This district of New South Wales had been visited, and proclaimed as such, by the Governor Bourke in 1837; and then half-acre lots in Melbourne realised at auction from £20 to £80 each.

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A large body of immigrants arrived, sheep reached fabulous rates, £2, £3, and even higher, when a crisis occurred, and not any description of property became saleable. Costly sheep, in 1842, were purchasable at one shilling and sixpence and two shillings per head, until the happy thought struck some one to boil them down for the fat. This process, becoming general, ameliorated the market, and, by and bye, general prosperity again prevailed, based upon a sound foundation.

In 1851, after long-continued agitation, Port Phillip became an independent colony, and was proclaimed as Victoria, Mr. Latrobe being the first governor.

In May, 1851, gold was discovered in New South Wales, which stimulated the search that in 1849 had commenced in Victoria; and later in the year 1851 gold was discovered at Anderson's Creek, Ballarat, Clunes, Mount Alexander, Bendigo, and the Ovens. In such incredible quantities did it pour into Melbourne as to excite the whole community, and to cause almost every able-bodied man to abandon his situation, and start for the diggings; but within three months the majority returned, wiser, if not sadder—pennyless—to resume their former avocations. A large influx of immigrants set in from all countries, and from that time, 1852, till 1858, from £9,000,000 to £12,000,000 worth was annually exported, besides the large amount privately carried away. Of late years, the yield of gold, although likely to continue very large, has diminished; the majority of the miners having betaken themselves to other pursuits than mining, whilst the production of wool and agriculture has greatly extended.

After the discovery of gold, the wildest excitement prevailed; the most outrageous revelry and prodigal expenditure was the order of the day. Now, all is changed to sober order and contentment, every class appears well-to-do. We think that no colony presents a better field for men of small capital to emigrate thereto, whether as agriculturists or manufacturers. If a man fancy the choicest bit of land in the colony—if it be not sold—he has but to apply, and, up to 320 acres, he can at once obtain it at an annual rental of two shillings per acre; and, after he has made ten payments, and complied with other easy conditions—elsewhere mentioned—the land becomes his own, in fee simple; and so fertile is it, for the most part, that it requires but to be “tickled with the hoe,” as some writer has remarked. The manufacture of every conceivable article of commerce has been commenced by the most skilled mechanics, gathered from every part of the world. The flocks and herds have increased; although they do not number one-half those of New South Wales, yet that colony depends upon Victoria for a market, so greatly does the population of Victoria exceed that of New South Wales. It remains to be seen in the future whether, by the wisdom of her laws, Victoria maintains her

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present ascendancy in the race and struggle of the Australian colonies to outvie each other; but desirous of writing impartially, we strongly urge men of no means, and of no definite trade, to remain wherever they may be, and not to emigrate to Victoria, or to any other Australian colony. The time has gone by when—as the guide books used to say—"a sober and industrious man is sure of advancement." The same estimable qualifications are not now limited to a few persons, and useless men, strong, able, and sober though they be, are a drug in the market, but domestic servants, skilled mechanics, farm labourers, and navvies are in demand in Victoria, as in all of Australia. The eight hours' system is generally adopted; and living has become very cheap. Although rents are high, frugal men can soon obtain cottages or homesteads.

CONSTITUTION.—When Victoria became an independent colony, two-thirds of the members of the Council were elective, the rest were nominees of the governor; but the representations to the home government from the colony—then assuming so important a position—caused the proclamation of a new constitution in 1855, with responsible ministries. The governor—Sir G. F. Bowen now holds the position—is appointed by the Queen, and his term of office does not usually exceed five years. There are two Houses of Legislature; the president of the Council, and the speaker of the Assembly, being each elected by the members. The Executive Council consists of the governor and the ministry of the day; a premier and treasurer, chief secretary, attorney-general, minister of justice, minister of lands, commissioner of trade and customs, minister of education, and postmaster-general, minister of mines, and minister of public works and railways.

THE LEGISLATIVE COUNCIL.—The colony is divided into six provinces, each of which returns five members—in all thirty—to the Council; and the members of both Houses, receive £300 each per annum from the State. Of the Council, six retire in rotation every two years. The electors number 24,930; and possession of a leasehold of £50 per annum, or of a freehold of £500 absolute, confers a vote. A candidate must own freehold property of the value of £2500, or of an annual value of £250, and be thirty years of age.

THE LEGISLATIVE ASSEMBLY is composed of seventy-eight members elected triennially by universal suffrage—the voting for both houses being by ballot—the qualification of an elector being that he must be twenty-one years of age, be British-born, and have resided twelve months in the colony; a foreigner must have been naturalised three years. Persons whose names are not on the roll of a municipality or shire council, must take out electors' rights, a registration fee of one shilling being charged. To prevent personation the elector signs his name on the electoral right before the registrar, and at elections this can be challenged by the scrutineers.

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The members are returned by forty-nine districts; four return three each; twenty-one, two each; and twenty-four return one each. For the Legislative Assembly, the electors number 146,937.

BALLOT.—By this means every election is now carried on in the quietest manner, and in absence of all excitement. The elector enters the polling booth, and at the head of a table is seated the deputy returning officer, a scrutineer for either candidate on each side of him. He announces his name, and this with a number attached is found on the roll (periodically made up;) the returning officer hands to him a paper with the names of all the candidates thereon, and he is told to strike out the names to which he objects after he has retired behind a screen. Having so done, he folds the paper and places it in the ballot-box. In order to check any disputed election, before handing to the elector his paper, the returning officer marks the number of the elector on the back of his paper, whilst all the scrutineers mark off the number on the roll as having voted; and occasionally a man has personated another, voted for him, and the real man has then been refused any vote. Of course the returning officer, to whom the boxes sealed are sent, is sworn to secrecy; but by comparing the voting papers with numbers on the roll, he can know how each person votes. Such is the ballot in Victoria, and which has proved an eminent success, little liable to abuse. The shilling registration fee is an admirable check upon fraud, and deters from voting the vagrant class, a very trifling element in the community, the pick of many countries; for who but young, intelligent, and energetic men care to emigrate?

DISTRICTS.—The colony is divided into four, viz., Gipps Land, the Murray, the Wimmera, and the Loddon.

THE GIPPS LAND DISTRICT is situated at the south-eastern portion of the colony, and embraces about one-fifth of the colony. It abounds in minerals, viz., gold, silver, copper, lead, iron, and tin. It is highly fertile, though much of it is inaccessible owing to the mountainous character of the country; but the extensive area of grazing land largely supplies Melbourne with fat cattle. The climate is highly salubrious, and the railway in course of construction will open up a vast and magnificent tract of country almost unknown at the present time.

THE MURRAY DISTRICT is the north-eastern portion of the colony, embracing the Owens and Omeo districts, and the country north of the Alps, mentioned elsewhere.

THE LODDON DISTRICT consists of the counties Bendigo and Gladstone, and adjacent country in the north. As well as being pastoral, it contains a large portion of the richest quartz reefs in the colony.

THE WIMMERA DISTRICT embraces the extensive tract of country in the north-west. Much of it is very infertile. It skirts along the Murray, and is subject to its overflow. The grass is scanty,

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although sheep thrive thereon. It is in the north-west corner; sandy, scrubby, and swampy country.

LEGISLATIVE COUNCIL.

THE MEMBERS—who are designated “honourable”—representing the provinces in 1876, are, for the

CENTRAL PROVINCE: T. T. A'Beckett, G. W. Cole, J. Graham, F. T. Sargood, T. J. Sumner.

SOUTHERN PROVINCE: W. A. C. A'Beckett, J. P. Bear, J. Balfour, F. S. Dobson, T. F. Hamilton.

SOUTH-WESTERN PROVINCE: J. Cumming, J. Henty, G. F. Belcher, C. J. Jenner, H. Cuthbert.

WESTERN PROVINCE: N. Black, Sir S. Wilson, T. Brommel, R. Simpson, W. Skene.

NORTH-WESTERN PROVINCE: W. Campbell, N. Fitzgerald, A. Fraser, Sir W. H. F. Mitchell (president,) F. Robertson.

EASTERN PROVINCE: R. S. Anderson, W. Highett, Sir F. Murphy, J. A. Wallace, W. Wilson.

LEGISLATIVE ASSEMBLY.

THE MEMBERS representing the electoral districts in 1876 are, for—

ARARAT, County of Ripon, two members: D Gaunson, W. McLellan.

AVOCA, Loddon District, two members: B. G. Davies (chairman of committees,) J. M. Grant.

BALLARAT EAST, County of Grant, two members: J. James, T. McDermott.

BALLARAT WEST, County of Grenville, two members: J. Fincham, Major W. C. Smith.

BELFAST, County of Villiers, one member: H. J. Wrixon.

BOURKE, EAST, two members: F. R. Godfrey, R. Ramsay.

BOURKE, EAST, BOROUGH, suburbs of Melbourne, one member: G. Higinbotham.

BOURKE, SOUTH, suburbs of Melbourne, two members: J. B. Crews, G. P. Smith.

BOURKE, WEST, suburbs of Melbourne, three members: M. L. King, J. C. Riddell, J. T. Smith.

BRIGHTON, County of Bourke, one member: T. Bent.

CASTLEMAINE, County of Talbot, three members: J. Farrell, J. B. Patterson, R. Walker.

COLLINGWOOD, County of Bourke, suburbs of Melbourne, three members: A. L. Tucker, G. D. Langridge, J. F. Sullivan.

CRESWICK, County of Talbot, two members: R. Richardson, J. S. Stewart.

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CROWLANDS, Wimmera District, two members : C. Campbell, J. Woods.

DALHOUSIE, County north of Bourke, one member : J. G. Duffy.

DUNDAS, County west of Melbourne and east of South Australian Boundary, one member : J. A. McPherson.

EMERALD HILL, one member : J. Whiteman.

EVELYN, County east of Bourke, one member : E. H. Cameron.

GEELONG EAST, County of Grant, two members : J. M. Garret, J. Richardson.

GEELONG WEST, County of Grant, two members : Graham Berry, J. De B. Johnstone.

GIPPS LAND, NORTH, south of the Murray district, one member : J. McKean.

GIPPS LAND, SOUTH, one member : F. C. Mason.

GRANT, SOUTH, County west of Bourke, three members : J. R. Hopkins, P. Lalor, J. F. Levien.

GRENVILLE, County west of Grant, two members : W. Clarke, R. H. Locke.

KILMORE, County of Bourke, one member : T. Hunt.

KYNETON BOROUGH, County of Dalhousie, one member : C. Young.

MALDON, County of Bendigo, one member : J. Service.

MANDURANG, County of Bendigo, two members : J. J. Casey, Thompson Moore.

MARYBOROUGH, County of Talbot, two members : W. Fraser, D. Gillies.

MELBOURNE, EAST, two members : E. Cohen, G. S. Coppin.

MELBOURNE, NORTH, two members : J. Munro, J. Curtain.

MELBOURNE, WEST, two members : E. Langton, Sir Charles MacMahon (Speaker.)

MORNINGTON, County east of Hobson's Bay, one member : J. L. Purves.

MURRAY DISTRICT, north of Gipps Land, one member : W. Witt.

MURRAY BOROUGH, one member : P. Hanna.

NORMANBY, County south-west of Melbourne, and east of South Australia, one member : T. Cope.

OVENS DISTRICT, north of Gipps Land, two members : G. B. Kerferd, G. V. Smith.

POLWARTH AND SOUTH GRENVILLE, including Cape Otway country, one member : J. H. Connor.

PORTLAND, County of Normanby, one member : T. Must.

RICHMOND, suburb, two miles east of Melbourne, two members : J. Bosisto, R. S. Inglis.

RIPON AND HAMPDEN, Counties west of Grenville, one member : F. Longmore.

RODNEY, County north of Dalhousie, one member : S. Fraser.

SANDHURST, County of Bendigo, two members : R. Burrowes, A. Mackay.

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SANDRIDGE, suburb of Melbourne, one member : D. Thomas.

ST. KILDA, suburb of Melbourne, two members : E. J. Dixon, R. M. Smith.

VILLIERS AND HEYTESBURY, Counties south-west of Grenville, two members : W. Bayles, M. O'Grady.

WARRNAMBOOL, County of Villiers, one member : Sir James McCulloch.

WILLIAMSTOWN, suburbs of Melbourne, a port immediately opposite to Sandridge, one member : A. T. Clarke.

WIMMERA DISTRICT, in the north-west, one member : J. MacBain.

COUNTIES.—The colony is divided into thirty-seven counties, and, according to the census of 1871, the population then numbering 731,528, was apportioned as follows. The principal towns are also mentioned, with distances from Melbourne :—

COUNTIES IN GIPPS LAND, SOUTH OF THE DIVIDING RANGE, IN THE SOUTH-EASTERN PORTION OF VICTORIA.

BULN BULN, 4116 ; viz., males, 2468 ; females, 1648. Alberton is a township four miles from Port Albert, 173 miles south-east of Melbourne.

TANJIL, 11,004 ; viz., males, 6336 ; females, 4655. Sale is 145 miles south-east. Bairnsdale is 185 miles south-east.

DARGO, 2222 ; viz., males, 1630 ; females, 582.

TAMBO, 480 ; viz., males, 296 ; females, 190.

CROAGINGOLONG, 372 ; viz., males, 257 ; females, 115.

GIPPS LAND, NORTH OF THE DIVIDING RANGE.

WONNANGATTA, 3972 ; viz., males, 2508 ; females, 1464. Jamieson is 175 miles north-east. Wood's Point is 120 miles north-east from Melbourne.

There are extensive plains in some parts, but a very large portion of the above-mentioned country consists of Alpine land, mountains from 3000 to 8000 feet high, and often covered with snow ; rich black and chocolate coloured soil, but inaccessible to the plough.

OVENS AND MURRAY DISTRICT.

BENAMBRA, 1228 ; viz., males, 862 ; females, 366. Omeo is 250 miles north-east of Melbourne.

BOGONG, 25,797 ; viz., males, 15,325 ; females, 10,472. Beechworth is 189 miles north-east. Chiltern is 168½ miles by rail. Rutherglen is 184 miles north-east. Yackandandah is 195 miles north-east.

DELATITE, 11,903 ; viz., males, 7495 ; females, 4408. Benalla is 121½ miles by rail. Mansfield is 137 miles north-east.

MOIRA, 3352 ; viz., males, 2104 ; females, 1248. Wangaratta is 145½ miles north-east by rail.

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NORTHERN COUNTIES.

ANGLESEY, 5492; viz., males, 3389; females, 2103. Alexandra is ninety miles north-east. Tallarook is fifty-six miles north-east by rail.

DALHOUSIE, 26,471; viz., males, 14,737; females, 11,734. Heathcote is seventy miles north-east. Kilmore is thirty-nine and a half miles north-east by rail. Malmsbury is sixty-three and a half miles north by rail. Woodend is forty-eight and a half miles north by rail. Kyneton is fifty-six and three-quarter miles north by rail. Seymour is sixty-one and a quarter miles north-east by rail.

RODNEY, 7390; viz., males, 4475; females, 2915. Echuca is 156 miles north by rail. Rochester is $138\frac{1}{2}$ miles north by rail.

TALBOT, 84,762; viz., males, 49,067; females, 35,695. Castlemaine is seventy-eight miles north by rail. Daylesford is seventy-eight miles north-west. Clunes is 123 miles west by rail. Creswick is $111\frac{1}{2}$ miles west by rail. Carisbrook is $107\frac{1}{2}$ miles north-west by rail. Amherst is 114 miles north-west. Talbot is $133\frac{1}{2}$ miles north-west by rail. Maryborough is 112 miles north-west by rail. Maldon is eighty-nine miles north-west.

METROPOLITAN COUNTIES.

MORNINGTON, 7397; viz., males, 4140; females, 3257. Berwick is twenty-eight miles south-east. Mornington is thirty-three miles south. Cranbourne is twenty-nine miles south south-east.

EVELYN, 5997; viz., males, 3517; females, 2480. Eltham is fourteen miles north-east. Whittlesea is twenty-five miles north-east. Healesville is thirty-eight miles east.

BOURKE, 236,778; viz., males, 120,147; females, 116,631. Williamstown is nine and a quarter miles south-west by rail. Brighton is nine and a half miles south by rail. Sunbury is twenty-three and three-quarter miles north by rail. Gisborne is forty miles north by rail. Bacchus Marsh is thirty-five miles north-west.

GRANT, 73,828; viz., males, 38,293; females, 35,535. Geelong is forty-five miles south-west by rail. Steiglitz is seventy-seven miles south-west. Ballarat East is 100 miles north-west by rail. Buninyong is ninety-four miles west, and seven miles from Ballarat.

SOUTH-WESTERN COUNTIES.

GRENVILLE, 60,917; viz., males, 32,865; females, 28,052. Ballarat West is $100\frac{1}{4}$ miles north-west by rail. Sebastopol is four miles south of Ballarat. Smythesdale is eleven miles west of Ballarat. Scarsdale is thirteen miles west of Ballarat.

POLWARTH, 3837; viz., males, 2012; females, 1735. Colac is ninety-two miles south-west of Melbourne.

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HEYTESBURY, 3050; viz., males, 1643; females, 1416. Allansford is 156 miles south-west.

HAMPDEN, 7172; viz., males, 4048; females, 3124. Camperdown is 120 miles west south-west. Mortlake is 146 miles south-west of Melbourne.

RIPON, 14,010; viz., males, 8204; females, 5806. Ararat is 157½ miles north-west by rail. Beaufort is 128½ miles west by rail.

VILLIERS, 21,031; viz., males, 11,422; females, 9609. Belfast is 181 miles south-west. Warrnambool is 163 miles south-west.

NORMANBY, 10,750; viz., males, 5600; females, 5150. Portland is 226 miles south-west.

DUNDAS, 6888; viz., males, 3727; females, 3161. Hamilton is 210 miles west.

FOLLETT, 1240; viz., males, 683; females, 557. Casterton is 256 miles west.

LODDON DISTRICT—COUNTIES IN THE NORTHERN PORTION OF THE COLONY.

BENDIGO, 46,109; viz., males, 26,059; females, 20,050. Sandhurst is 100½ miles north by rail. Eaglehawk is four miles west of Sandhurst. Huntly is twelve miles from Sandhurst.

GLADSTONE, 16,688; viz., males, 10,239; females, 6449. Dunolly is 125½ miles north-west by rail. Inglewood is 132 miles north-west of Melbourne. Tarnagulla is 130 miles north-west. Avoca is 122 miles north-west. Wedderburn, formerly Korong, is 147 miles north-west of Melbourne.

GUNBOWER, 614; viz., males, 412; females, 202.

WIMMERA DISTRICT—THE NORTH-WESTERN PORTION.

KARA KARA, 9611; viz., males, 6082; females, 3529. St. Arnaud is north-west of Maryborough; a daily coach runs to Dunolly, and another to Maryborough—fare, 12s. 6d.—and from either town the train can be taken to any part of the colony. A daily coach also runs hence to Ballarat, fare, 15s. Navarre is north-east of Ararat.

BORUNG, 11,140; viz., males, 6448; females, 4692. Donald is north-west of St. Arnaud. Glenorchy is 183 miles north-west. Dimboola is 246 miles north-west, on the Wimmera. Warracknabeal lies between Lakes Buloke and Hindmarsh—far out. Horsham is 222 miles north-west of Melbourne; a daily coach—fare, £1 5s.—runs to Stawell, whence, in a few weeks, the train will be taken to any part of the colony. Stawell is 170 miles north-west of Melbourne, eighteen miles from Ararat, the present terminus of the Ballarat railway.

LOWAN, 1883; viz., males, 1154; females, 729. On Mr. R. Brough Smyth's map is denoted a belt of mallee scrub, on the borders of South Australia. Harrow is 274 miles west of Melbourne.

TATCHERA, 563; viz., males, 388; females, 175.

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KARKAROOK, 349; viz., males, 261; females, 88.

WEEAH; no inhabitants.

MILLEWAH, 109; viz., males, 63; females, 46.

These four last-mentioned counties lie south-west of, and along the Murray River, extending west of Echuca to the South Australian boundary line, and, for the most part, are indicated by Mr. R. B. Smyth as sand-hills, heath, and dense scrub of eucalyptus and mimosa.

BOUNDARIES OF VICTORIA—See table, "Area of Australia."

MOUNTAINS OF VICTORIA—See table, "Mountains of Australia."

PORTS.—The principal are Hobson's Bay, Portland Bay, Port Fairy and Port Albert, all noticed *en route*.

CHAPTER VIII.

LAKES—CAPES—ISLANDS—RIVERS.

LAKES.—The principal are LAKE CONNEWARRE, salt, west of Queens-cliff, covering 7680 acres, twelve square miles.

LAKE CORANGAMITE, salt, covering 48,640 acres (seventy-six square miles,) near Colac, south-west of Geelong.

LAKE COLAC, fresh, 6400 acres (ten square miles.)

LAKE BURRUMBEET, fresh, fourteen miles west of Ballarat, covers 5440 acres (eight and a half square miles.) At times it has been nearly dry, but usually the deepest part is seventeen feet. The Ballarat people sometimes hold regattas thereon. It is about thirty miles in circumference.

LAKE LEARMONTH, twelve miles north-west from Ballarat, and four from Burrumbeet, is shallow. It covers 1200 acres.

LAKE WENDOUREE is two miles from Ballarat, a shallow lake, about four miles in circumference. It has been much beautified by the city council, and at times is covered with boats. It faces the Botanical Gardens, is surrounded with trees and walks, and is full of perch, affording good fishing.

LAKE ALBACUTYA, in the north-west, covers 13,440 acres.

LAKE BULOKE, also in the north-west, is 8960 acres in extent.

LAKE TYRRELL lies in the north-west, as does LAKE HINDMARSH in the Wimmera district, north of Horsham. The latter is 35,840 acres in extent. The Gipps Land lakes are separated from the sea by a belt of sand only, and are navigable the greater part of the year.

LAKE VICTORIA has an area of 58,240 acres; LAKE WELLINGTON of 46,080 acres; LAKE REEVE, of 26,880 acres; LAKE KING, at the entrance, has the smallest area; LAKE TYERS is east of Lake King; and, facing the shore, defending these lakes, is the Ninety-mile Beach.

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CAPIES.—OTWAY is south-west of Queenscliff.

POINT FLINDERS is west of Point Lonsdale, at entrance to Lake Connewarre.

POINTS LONSDALE and **NEPEAN** are the Heads (west and east) of Port Phillip.

CAPIES SCHANK, **PATTERSON**, **LIPTRAP**, and **WILSON'S PROMONTORY**, lie south-easterly.

CAPE HOWE is the eastern boundary of the colony.

RAM HEAD lies west of Cape Howe.

ISLANDS.—The principal along the coast are:—**JULIA PERCY ISLAND**, between Portland and Belfast.

GLENNIE ISLAND is west of Wilson's Promontory.

SNAKE ISLAND, **RABBIT ISLAND**, and **SUNDAY ISLAND** are off Corner Inlet.

GABO ISLAND is south-west of Cape Howe.

PHILLIP ISLAND is in Western Port.

FRENCH ISLAND is north of Phillip Island.

RIVERS.—**THE MURRAY**, rising in the Alps near Forest Hill and Mount Kosciusko, is navigable as far as Albury, 1703 miles from its mouth. Running in a tortuous course along the northern boundary of the colony over 1500 miles, it carries the Murrumbidgee, Lachlan, and Darling, thus draining a large portion of New South Wales and Queensland, as well as Victoria and South Australia—as more fully detailed under heading "South Australia"—and debouches through Lake Alexandrina into Encounter Bay, South Australia.

MITTA MITTA, ninety miles in length, rising north of the Australian Alps, flows into the Murray, east of Wodonga.

OVENS, 100 miles in length, from the same source, flows into the Murray, west of Rutherglen.

WERRIBEE, fifty-five miles in length, enters Port Phillip Bay, south-west of Williamstown.

LITTLE RIVER, twenty-five miles in length, enters the Bay between Geelong and the Werribee.

SALTWATER RIVER, seventy miles in length, flows into the Yarra at Footscray.

BARWON, seventy miles in length, rises in the Otway Ranges, and—with its tributaries, the Moorabool and Leigh—flows through Lake Connewarre into the sea.

GLENELG, 205 miles in length, rises in the Grampians, west of the Pyrenees; this was the "considerable stream flowing southwards" which, in 1836, Sir T. Mitchell navigated in a canvas boat down to the mouth, and which proved to have no practicable entrance. After taking a westerly course, it turns south, and empties into Discovery Bay, and is the western boundary of Victoria.

The following rivers are more insignificant:—

WANNON, 105 miles in length, is a tributary of the Glenelg; the **GRANGE** of the Wannon.

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EUMERALLA, fifty-five miles in length, flowing south from the Grampians, empties into the sea east of Portland.

HOPKINS, 110 miles in length, passing Wickliffe, Chatsworth, and Hexham, enters the sea at Warrnambool. The **MOYNE** enters the sea at Belfast.

GOULBURN, rising in the Alps, near Wood's Point—flowing north-westerly—gradually becomes a greater stream at Jamieson. With its affluents, the Howqua and Broken Rivers, it passes Seymour and Murchison, and finds its way into the Murray, east of Echuca. It has lately been navigated 250 miles, by a steamer of light draught, sixteen miles above Murchison.

Travelling westerly, and north of the divide, the following rivers are crossed :—The **Campaspe**, eighty-five miles in length, with its affluents—the **Coliban** passing Malmesbury, and the **Bendigo Creek**, from Sandhurst—flows into the Murray about Echuca.

LODDON, 160 miles in length, with its tributaries, **Deep Creek**—which passes Carisbrook—and **Bet Bet**, empties into the Murray east of Castle Donnington (Swan Hill.)

AVOCA, 130 miles in length; **AVON**, sixty-five miles in length; and **WIMMERA**, 135 miles in length, rising north of the Dividing Range, are all lost in the lakes amongst the mallee scrub country, in the north-west.

FROM THE ALPS, in the south-eastern portion of Victoria, are three water-sheds, carrying the waters from the springs emanating from those mountainous ranges and from the thawing of the snow accumulating thereon. At times, so sudden and so excessive is the downpour therefrom, that great havoc is caused by floods in the low country. In the month of April we have travelled sixteen miles along the divide—the whole distance being covered with snow, two feet deep, which remained unthawed for fourteen days after it fell. On the north, the waters flow to the Murray, the sources of which herein arise.

Herefrom—southerly—emanate the **LATROBE**, with numerous tributaries, the **Tangil**, and **Tyers**, &c.; and the **THOMPSON**, with its tributaries, the **Aberfeldy** and **McAllister** (sixty-five miles in length,) which conjoin near Sale; both debouch into Lake Wellington. The **AVON**, passing Stratford, exits also into Lake Wellington. The **WONGUNGARRA**, carrying the **Wonnangatta** and the **Crooked River**—and the **DARGO**, carrying the **Wentworth**—converge to one point, and become the **MITCHELL** (sixty miles in length,) which exits into Lake King; as do the **NICHOLSON** and the **TAMBO** (eighty-five miles in length,) with all their tributaries. The **SNOWY RIVER** (200 miles in length,) carrying with it the **Buchan** and numerous tributaries, flows into the sea south-west of Cape Howe.

YARRA YARRA, rising in the south-western portion of the Dividing Range, not far from Matlock, about 120 miles from Melbourne, with its tributaries, the **WATTS**, **ACHERON**, and **PLENTY**, finds its way

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down to Melbourne through valleys and between mountains of the most picturesque description. The scenery from the German Spur, a mountain, seven miles from the foot to summit—range towering upon range—ten miles from Wood's Point, is grand in the extreme. As far as the eye can reach, deep valleys, densely covered with magnificent timber and impenetrable underwood, extend fifty or 100 miles in every direction, encircled by ranges of mountains over 5000 feet high. Peaks of still loftier mountains, 7000 to 8000 feet high, in the distance, are covered with snow the greater part of the year. From Matlock, 5000 feet above the sea, a grand and extensive view can be obtained, including that of the three watersheds.

With exception of the Murray and its tributaries, also the Goulburn and Yarra, not a river in Victoria is navigable excepting by boats.

CHAPTER IX.

STEAMERS FROM MELBOURNE—RAILWAYS—ALBURY TO SYDNEY— ECHUCA TO BURKE TOWN.

TO ADELAIDE.—Every Tuesday.

BELFAST.—Monday, at 3 p.m.

GEELONG.—Daily (Saturday, at 3 p.m.) Return, 8.30 a.m.

HOBART TOWN.—Twice a month.

LAUNCESTON.—About twice a week.

KING GEORGE'S SOUND.—P. and O. Co.'s and Branch Mail Steamer, once a month.

NEW ZEALAND.—Hokitika, Greymouth, Nelson, Wellington, Otago, and Bluff, weekly. Auckland, *via* Sydney.

PORT ALBERT.—Weekly, from Queen's Wharf.

PORTLAND.—Weekly, from Queen's Wharf.

QUEENSLAND.—For Brisbane, *via* Sydney, about twice a week.

SWAN HILL, 240 miles from Echuca; BALRANALD, 473 miles; HAY, 703 miles; and WAGGA WAGGA, 1081 miles—Starting from Echuca.

SYDNEY.—About twice a week.

WAHGUNYAH, ALBURY (403 miles,) AND UPPER MURRAY.—From Echuca.

WARRENAMBOOL.—Monday, at 3 p.m.

VICTORIAN RAILWAYS.

MELBOURNE AND SANDHURST.—Four trains start daily; the journey—100½ miles—being performed in four hours.

SANDHURST AND ECHUCA.—Three trains start daily from Sandhurst after arrival of the trains from Melbourne, and the journey—fifty-five and a quarter miles to the Murray River—occupies about two and a half hours.

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The Stations and Distances from Melbourne to Echuca—the Victorian Railways' Time Table affords all particulars as to the time of departure and fares—are as follows:—From Melbourne to North Melbourne, $1\frac{1}{2}$ miles; Footscray, $3\frac{1}{2}$; Keilor Road, 15; Diggers' Rest, $20\frac{1}{2}$; Sunbury, $23\frac{1}{2}$; Lancefield Road, $31\frac{1}{2}$; Riddell's Creek, $35\frac{1}{2}$; Gisborne, 40; Macedon, $43\frac{1}{2}$; Woodend, $48\frac{1}{2}$; Tylden and Carlsruhe, 53; Kyneton, $56\frac{1}{2}$; Malmesbury, $63\frac{1}{2}$; Taradale, $67\frac{1}{2}$; Elphinstone, $70\frac{1}{2}$; Castlemaine, 78; Harcourt, $82\frac{1}{2}$; Ravenswood, $90\frac{1}{2}$; Kangaroo Flat, $97\frac{1}{2}$; Sandhurst, $100\frac{1}{2}$; Goornong, $117\frac{1}{2}$; Runnymede, $128\frac{1}{2}$; Rochester, $138\frac{1}{2}$; Echuca, 156.

MELBOURNE TO GEELONG AND BALLARAT.—Four trains start daily, two only proceed on to Ararat. The journey to Geelong occupies one hour and forty-seven minutes; to Ballarat, four hours; to Ararat, seven hours and twenty-four minutes:—From Melbourne to Williamstown Junction, $6\frac{1}{2}$ miles; Werribee, $19\frac{1}{2}$; Little River, $29\frac{1}{2}$; Lara (late Duck Ponds), $35\frac{1}{2}$; Geelong, 45; Moorabool, $51\frac{1}{2}$; Leigh Road, $59\frac{1}{2}$; Lethbridge, $65\frac{1}{2}$; Meredith and Steiglitz, $74\frac{1}{2}$; Elaine, $80\frac{1}{2}$; Lal Lal, $87\frac{1}{2}$; Buninyong, $90\frac{1}{2}$; Warrenheip, 96; Ballarat East, $99\frac{1}{2}$; Ballarat, $100\frac{1}{2}$; Windermere, 110; Burrumbeet, $113\frac{1}{2}$; Trawalla, $123\frac{1}{2}$; Beaufort, $128\frac{1}{2}$; Buangor, 143; Ararat, $157\frac{1}{2}$.

MELBOURNE TO WODONGA.—The north-eastern line. Two trains start daily, and the journey of 187 miles to the Murray—a point about thirty miles east of Echuca—occupies seven hours and a half. To Seymour, sixty-one and a quarter miles on the Beechworth road, three trains start daily:—From Melbourne to North Melbourne, $1\frac{1}{2}$ miles; Newmarket, $2\frac{1}{2}$; Essendon, $4\frac{1}{2}$; Broadmeadows, $10\frac{1}{2}$; Craigieburn, $16\frac{1}{2}$; Donnybrook, $20\frac{1}{2}$; Beveridge, 26; Wallan Wallan, $29\frac{1}{2}$; Kilmore, $39\frac{1}{2}$; Broadford, $46\frac{1}{2}$; Tallarook, 56; Seymour, $61\frac{1}{2}$; Avenel, 72; Longwood, $84\frac{1}{2}$; Euroa, $93\frac{1}{2}$; Violet Town, 105; Benalla, $121\frac{1}{2}$; Glenrowan, $135\frac{1}{2}$; Wangaratta, $145\frac{1}{2}$; Springs, $159\frac{1}{2}$; Chiltern, $168\frac{1}{2}$; Barnawartha, 174; Wodonga, 187.

WANGARATTA TO BEECHWORTH is a branch of the North-eastern line, in course of construction, now open to Everton, $15\frac{1}{2}$ miles; two trains run daily. From Melbourne to Wangaratta, $145\frac{1}{2}$ miles; Tarrawingee, $157\frac{1}{2}$; Everton, $161\frac{1}{2}$.

CASTLEMAINE BRANCH LINE to Maryborough and Dunolly, $47\frac{1}{2}$ miles, connecting with the Ballarat line; three trains run daily. From Melbourne to Guildford, $84\frac{1}{2}$ miles; Newstead, $92\frac{1}{2}$; Joyce's Creek, $95\frac{1}{2}$; Moolort, $100\frac{1}{2}$; Carisbrook, $107\frac{1}{2}$; Maryborough, 112; Dunolly, $125\frac{1}{2}$.

BALLARAT BRANCH LINE to Maryborough, $42\frac{1}{2}$ miles, connecting with Castlemaine Branch Line; three trains run daily. From Melbourne to Ballarat, $100\frac{1}{2}$ miles; Racecourse, $105\frac{1}{2}$; Creswick, $111\frac{1}{2}$; Tourello, $119\frac{1}{2}$; Clunes, 123; Talbot, $133\frac{1}{2}$; Maryborough, $142\frac{1}{2}$; Carisbrook, Moolort, Joyce's Creek, Newstead, Guildford, Castlemaine.

MARYBOROUGH BRANCH LINE to Dunolly, $13\frac{1}{2}$ miles.—Two trains

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start daily, carrying the passengers from Melbourne, Ballarat, Sandhurst, and Castlemaine:—From Melbourne to Maryborough *via* Castlemaine, 112 miles; Havelock, 116½; Bet-Bet, 119½; Dunolly, 125½.

RAILWAYS IN PROGRESS OF CONSTRUCTION.—From Ararat the line eighteen miles is nearly finished to Stawell, 17½ miles north-west of Melbourne. From Ararat to Hamilton a line is progressing, sixty-seven miles in length. From Geelong to Colac, forty-six miles south-westerly, the line is being continued. A lofty tunnel, a quarter of a mile in length, has been constructed from Aberdeen-street, under the houses, until at Chilwell it emerges into the open. From Oakleigh, ten miles south-east of Melbourne, a line is rapidly advancing to Sale, in Gipps Land, 140 miles south-east of Melbourne.

From Sandhurst to Inglewood, a line, twenty-eight miles in length, is being constructed, as well as another about twenty miles, from Maryborough to Avoca. Public attention is being directed to the advisability of pushing on light lines of rail all through the country. The western squatters are eager that the Colac line should be extended to Camperdown, seventy-five miles south-west of Geelong; and some are mooted the question of a line from Geelong to Queenscliff; so that the colony will own extensive public works—the produce of our indebtedness to bond holders—which in a very short time promise to become highly reproductive.

ALBURY TO SYDNEY.

To Goulburn by Cobb and Co.'s Coaches as follows:—

	Miles.	Fares.
From Albury to Mullaganda	20 ..	£0 10 0
Thence to Dickson's Swamp ..	10 ..	0 5 0
„ Ten-mile Creek ..	9 ..	0 5 0
„ Garry's Hotel ..	7 ..	0 5 0
„ Kyamba ..	19 ..	0 7 6
„ Tarcutta ..	19 ..	0 7 6
„ Mundarlo ..	16 ..	0 7 6
„ Adelong Creek ..	12 ..	0 7 6
„ Gundagai ..	10 ..	0 5 0
„ Coolac ..	10 ..	0 5 0
„ Jugiong ..	15 ..	0 7 6
„ Reedy Creek ..	10 ..	0 5 0
„ Five-mile Creek ..	5 ..	0 2 6
„ Bogolong ..	6 ..	0 2 6
„ Bowning ..	12 ..	0 7 6
„ Yass ..	8 ..	0 5 0
„ Gunning ..	26 ..	0 15 0
„ Goulburn ..	30 ..	0 15 0
	<hr/> 244	<hr/> £6 5 0

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From Goulburn to Sydney by Railway:—

To		Miles from Goulburn.	Fares from Goulburn.			
			First-class.		Second-class.	
To Towrang	..	10	£0	3 2	£0	2 6
„ Carrick	..	12	0	3 9	0	3 0
„ Marulan	..	20	0	6 3	0	5 0
„ Cables' Siding	..	32	—	—	—	—
„ Jordan's Crossing	..	39	0	12 2	0	9 9
„ Sutton Forest	..	48	0	15 0	0	12 0
„ Burradoo	..	52	0	16 3	0	13 0
„ Bowral	..	54	0	17 0	0	13 6
„ Mittagong	..	57	0	17 10	0	14 3
„ Rush's	..	60	0	18 9	0	15 0
„ Picton's Lagoons	..	75	1	3 5	0	18 9
„ Picton	..	81	1	5 4	1	0 3
„ Douglas Park	..	89	1	7 6	1	1 7
„ Menangle	..	94	1	8 10	1	2 5
„ Campbelltown	..	100	1	10 6	1	3 5
„ Macquarie Fields	..	107	1	12 4	1	4 7
„ Glenfield	..	109	1	13 0	1	5 0
„ Liverpool	..	112	1	13 9	1	5 5
„ Cabramatta	..	114	1	14 3	1	5 9
„ Fairfield	..	116	1	14 10	1	6 0
„ Parramatta Junction	..	121	1	16 2	1	7 0
„ Haslem's Creek	..	124	1	16 8	1	7 2
„ Homebush	..	126	1	17 2	1	7 5
„ Sydney	..	134	1	18 8	1	8 5

From Melbourne to Wodonga, 187 miles, by rail £1 11 0

„ Albury „ Goulburn, 244 „ by coach 6 5 0

„ Goulburn „ Sydney 134 „ by rail 1 18 8

565

£9 14 8

ECHUCA TO BURKE TOWN ON THE ALBERT—

CARPENTARIA, AND TO PORT DARWIN.

A main line of railway, connecting, by branches, all the colonies, has been mooted from time to time, and doubtless will, at no distant date, be undertaken. About two years ago, a letter signed "Alexander," appeared in the *Argus*, and this displayed so intimate a knowledge of the line of country that we venture to draw attention to it. With the aid of Sydney Bradshaw, and of Pugh's invaluable *Queensland Almanac*, we shall follow the course the writer indicates to be the most desirable. He proposes that the line start from Echuca, on the south side of the Murray, 156 miles from Melbourne by rail, and 539 miles south-west of Sydney. Then across the river to Moama on the

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opposite bank, thence by the railway now in course of construction to Deniliquin, forty-nine miles from Moama, and 488 south-west of Sydney, and on to Hay, on the north side of the Murrumbidgee River, 493 miles south-west of Sydney.

Here a line would branch off westwards to Adelaide, passing Wentworth—near the junction of the Darling and Murray—700 miles south-west of Sydney, and on to Kapunda, forty-eight miles north-east of Adelaide by rail—thus connecting Adelaide.

From Hay another line would branch off eastwards, to Wagga Wagga, on the Murrumbidgee, 315 miles south-west of Sydney; which will soon be connected therewith by the Great Southern Railway, already running to Goulburn, 134 miles south of Sydney—thus connecting Sydney.

From Hay the main line would continue on northwards to Bourke (Fort Bourke)—on the Darling—598 miles west of Sydney, and 450 from Echuca. Digressing, we quote the following letter to the *Argus*, describing the extensive grazing country hereabouts, and how to reach it:—

“SIR,—I have just returned from Bourke, and the extensive and magnificent grazing country by which it is surrounded, more especially to the north and north-west; and as I found some difficulty myself, before leaving Melbourne in search of new country, I think it may be of use to others if you will please publish the following:—

“I left Melbourne for Echuca in March last. My aim was to get at Bourke, in New South Wales. After travelling fifty miles I reached Deniliquin, eighty miles further brought me to Hay, sixty more to Booligal, sixty more to Mossgeil, thirty-eight more to Ivanhoe, twenty more to the Government tank, eight more to Hardy's place, eighteen more to Mount Monara, 130 to Wilcannia, and 220 more up the Darling River to Bourke. I was much pleased with the aspect of the country through which I passed; pleased and amazed also at the magnificence of the country towards Cooper's Creek (where poor Burke and Wills perished,) between 600 and 700 miles from Bourke. For grazing purposes and for breeding horses this part of Australia is especially adapted, and many persons are taking up country for that purpose.

“But it is the town of Bourke I wish to speak of. I have stated its distance from Melbourne. It is about equi-distant from Brisbane and Sydney. It contains about 700 inhabitants, good buildings and stores, and is the centre of a very extensive pastoral and grazing country. It is on the high road of travelling stock from the north, north-west Queensland, &c., and as the telegraph wire will be extended to the town by about the end of November next, a large amount of business in stock telegraphy is likely to follow. The people of Bourke depend more on Melbourne than Sydney for supplies—especially when the Darling is navigable; and they deal also

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extensively with Adelaide. In fact, they can get supplies cheaper from Melbourne than from Sydney. This applies to other towns intermediate, such as Wilcannia, Menindie, Hay, &c.

"I am, &c.,

"St. Kilda, Sept., 1873.

"EXPLORER."

Respecting the opening up of a new route to Bourke, the *Hay Standard* states:—"That certain well-known mail contractors propose to open a new route between Hay and Bourke. At present the traveller has to go from Hay to Booligal (544 miles west of Sydney, and fifty north of Hay,) thence to Wilcannia, 210 miles, and thence up the Darling to Bourke, 220 miles. The proposed new route will be—Hay to Booligal, thence up the Lachlan on the south side to Hillston, *via* Merrowie-bridge, fifty miles, thence almost due north through the copper country to Bourke, 280 miles. This would open up new country, and shorten the route by about 100 miles."

Continuing northerly, between the 145th and 146th meridians of longitude, we now give Pugh's route to Burke Town, on the Albert River, and respective distances. From Fort Bourke to Buzlam, sixty miles; Shearers' Inn, fifteen—here we enter Queensland—Balalie, fifteen; Warrego, twenty-seven; Hills' Station, twelve; Cuttaburra, twenty-five; Bow Creek, thirty-seven; Ulo, fifteen; Yongha, twenty-five; Gorre-gorre, seventy; Tibbin, forty; Angelala, forty-five—westerly of this point is Charleville, on the Warrego River, and herefrom "Alexander" proposes that a line should branch off easterly to Mitchell Downs, 135 miles; to Roma, fifty-four; to Condamine, ninety-two; thence to Dalby, the present terminus, seventy-six miles; hence by rail 130 miles to Ipswich, and twenty-five on to Brisbane, distant from Charleville 512 or 520 miles; thus would Brisbane be connected with the main line. From Angelala to Listowell Downs, is eighty-six miles. Between these two places, "the traveller should run down Blackwater Creek south, for about eighty miles, to its junction with the Bulla River, which runs up from the westward, crossing the Bulla River, and keeping the western side. The Bogan River Company's Station will be found six miles from the junction." From Listowell Downs to Forest Hill is thirty-six miles; Malvern Hills, forty; Alice Downs, Barcoo River, forty.—We are now in the grazing country described in such rapturous terms by Mr. Oscar de Satge, in a letter to the *Queenslander*, on the Great Western Downs of Queensland, "a tract of beautiful grazing country lying to the west of Peak Downs, equal in grazing extent to the whole colony of Victoria; the grass remains succulent in winter, and the half-dozen or more varieties of the salt bush, afford a continual alternative for every description of stock." We give his letter *verbatim*, under the heading "Queensland."—From Alice Downs to Home Creek is thirty-four miles; Cameron's, Alice River, twenty; Salten Creek (no water, open plains,) twenty; Politic Creek (camp out,) twenty; Rule's, twenty-two; Ravensbourne, Aramac River, sixteen;

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Bowen Downs, twenty-eight; Tower Hill (well watered and grassed,) forty; Lammermoor, Thompson River, seventy-five; Hughenden, forty-two; Stewards', forty; here is a track going up Walker's Creek, seldom used; Marathon (no water for twenty miles,) ten; Richmond Downs, thirty; Chatfields' Camp (thirty miles desert,) twenty; Punch Bowl (camp out,) fifty; Gum Ridges, thirty-two; Lara, eighteen; Mount Brown, Flinders' River, fifteen; Conobie, forty; Clifton, twelve; Campbell's, twenty-five; Woodward's, thirty; Jackey's Lagoon (camp out,) twenty; Alexander River, twelve; Floraville, thirty-eight; Burke Town, twenty miles up the Albert River, is reached in forty-five miles; in all 1342 miles from Bourke, on the Darling River, and 1792 from Echuca, on the Murray.

FROM BURKE TOWN TO PORT DARWIN.—A railway having been constructed to Burke Town somewhat along the course indicated above—the lateral lines communicating with Adelaide, Sydney, and Brisbane—the *Argus* correspondent points out that from Burke Town it could be extended to Port Darwin by striking north-westerly, and reaching the Roper River, about the head of its navigation. Along this route the rivers crossed would be the Albert, Wentworth, Van-Alphen, Emu, Robinson, Macarthur (the largest,) Red Kangaroo, Limmen Bight, and Wickham—nearly all of which are “more or less navigable for boats”—which are the principal rivers to be crossed, and which flow into the Gulf of Carpentaria. From the Roper the line would “keep on south of the river to the junction of Elsie Creek; thence *via* Bitter Springs up the valley of the Roper Creek, crossing the River King; and thence to the River Katherine, close to the telegraph station; thence along the foot of Great Table Land, crossing the Edith River, where you enter the gold country; thence through the Pine Creek, Yam Creek, and Howley districts; cross the Adelaide, and thence to Southport, and round by Virginia to Port Darwin.”

From Port Darwin—

To head of Roper ..	..	is about	400 miles.
Thence to Burke Town ..	..	..	450 ..
.. Fort Bourke ..	..	..	1342 ..
.. Echuca ..	..	..	450 ..
.. Melbourne ..	..	..	156 ..

From Port Darwin, by rail, he calculates, then, would be—

To Brisbane ..	..	..	about 2300 miles.
.. Sydney ..	..	..	2500 ..
.. Melbourne ..	..	..	2798 ..
.. Adelaide, <i>via</i> Hay ..	..	..	2850 ..

The correspondent mentions that work along this route could be commenced at a dozen different points which are accessible by ships or boats, and that a comparatively settled country would be traversed.

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In how short a time, since 1861, when Burke and Wills led the way, has the march of civilisation penetrated almost the whole continent! How many inland towns have become more or less populous! How many rich goldfields have been opened up! The flourishing new ports in the north of Queensland, attest the energy and growing opulence of its inhabitants; as do the sugar plantations, and the sheep and cattle stations rapidly extending in every direction, to the very shores of Carpentaria Gulf. Away then with the idea that the introduction of free immigrants can possibly injure those already in the colonies! Assuredly, in Victoria, South Australia, and West Australia, trade is stagnant, if not languishing, owing to want of labour; the area of those three colonies alone being 1,981,226 square miles, and the population but 1,039,269 souls.

CHAPTER X.

VICTORIAN STATISTICS, 1874-5.

SINCE the foregoing pages have been in type, the Government statist, Mr. H. H. Hayter, has published his highly interesting and elaborate Victorian Year Book, from which we shall now quote continuously, and acknowledge the figures to be the result of his indefatigable labours.

POPULATION.—This per the census of 1871, numbered 731,528, of whom 401,050 were males, and 330,478 were females.

On 31st December, 1874, the number was 808,437, of whom 439,159 were males, and 369,278 females.

On 30th June, 1875, the population of Victoria numbered 813,588.

LIVE STOCK, 1864-1874.

	Horses.	Cattle.	Sheep.	Pigs.
1863	103,328	675,272	7,115,943	79,655
1864	117,182	640,625	8,406,234	113,530
1865	121,051	621,337	8,835,380	75,869
1866	121,381	598,968	8,833,139	74,708
1867	131,148	650,592	9,532,811	141,522
1868	143,934	693,682	9,756,819	136,206
1869	161,830	692,518	9,923,663	111,464
1870	167,220	721,096	10,761,887	130,946
1871	181,643	799,509	10,002,381	177,447
1872	185,796	812,289	10,575,219	193,722
1873	180,342	883,763	11,323,080	160,336
1874	180,550	956,688	11,225,206	138,594

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BALES OF WOOL EXPORTED.

(Per Returns of Messrs. Goldsbrough and Co., to Mr. Hayter.)

Year ending 1st October,	1837	..	..	..	Bales.
	1841	..	..	..	13,724
"	1854	..	..	..	67,642
"	1864	..	..	..	118,672
"	1866	..	..	..	145,137
"	1867	..	..	..	175,216
"	1868	..	..	..	208,689
"	1869	..	..	..	217,936
"	1870	..	..	..	211,630
"	1871	..	..	..	224,336
"	1872	..	..	..	216,021
"	1873	..	..	..	231,581
"	1874	..	..	..	265,540

WOOL.—The *Economist* remarks, respecting artificial grasses, which now in Victoria are laid down on 238,043 acres:—

“ That the production of wool does not decrease, but rather increases under a system by which the land is brought into combined tillage and grazing, is brought out by a late trade return, published by Messrs. Helmuth, Schwartze and Co. During the past year the keeping of superior long-woolled sheep on artificial grasses has largely increased in Victoria, and there has been a corresponding increase in the production of wool. In 1873 the exports into England from Australia and New Zealand amounted to 551,994 bales, and in 1874 the quantity was 651,576, or very nearly 100,000 bales increase. This, it appears, is the largest increase on record. The comparative increase of exports from the various colonies since 1850 is stated as follows:”—

	1850.		1874.
	Bales.		Bales.
Victoria	55,378	..	265,417
New South Wales and Queensland	51,463	..	136,748
Tasmania	17,468	..	17,223
South Australia	11,822	..	85,590
West Australia	1,046	..	6,285
New Zealand	1,502	..	140,313

RIVERINA WOOL SHIPPED FROM VICTORIA.

Year.			Lbs.		Value.
1870	13,000,000	..	£972,000
1872	19,552,598	..	1,096,772
1873	31,542,913	..	1,745,550
1874	35,332,089	..	1,975,879

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ANNUAL EXPORTS OF WOOL, TALLOW, AND SKINS. (From Mr. Hayter's Statistics.)

YEAR.	WOOL.		TALLOW.		HIDES AND SKINS
	Quantity.	Value.	Quantity.	Value.	Value.
	Lbs.	£	Lbs.	£	£
1851 ...	16,345,463	734,618	9,459,520	123,203	7,414
1852 ...	20,047,453	1,062,787	4,469,248	60,261	13,306
1853 ...	20,842,591	1,651,871	982,833	13,251	11,811
1854 ...	22,998,400	1,618,114	1,340,752	22,750	29,465
1855 ...	22,584,234	1,405,659	1,376,816	29,117	41,871
1856 ...	21,968,174	1,506,613	1,970,976	35,980	72,103
1857 ...	17,176,920	1,335,642	4,843,216	62,363	191,828
1858 ...	21,515,958	1,678,290	2,275,056	43,987	106,527
1859 ...	21,660,295	1,756,950	548,352	10,354	172,422
1860 ...	24,273,910	2,025,066	788,144	18,269	144,236
1861 ...	23,923,195	2,095,264	4,208,960	75,784	100,624
1862 ...	25,245,778	2,350,956	3,998,904	66,515	130,661
1863 ...	25,579,886	2,049,491	1,938,708	33,871	106,890
1864 ...	39,871,892	3,250,128	3,882,256	60,230	103,625
1865 ...	44,270,666	3,315,109	1,396,640	15,566	83,962
1866 ...	42,391,234	3,196,491	320,432	6,599	55,800
1867 ...	51,314,116	3,824,956	2,103,360	34,968	31,458
1868 ...	68,010,591	4,567,182	2,104,960	160,909	33,619
1869 ...	54,431,367	3,363,075	14,259,616	237,084	60,461
1870 ...	52,123,451	3,205,106	22,158,080	358,863	33,649
1871 ...	76,334,480	4,702,164	30,422,672	469,069	39,858
1872 ...	58,648,977	4,651,665	22,656,088	353,358	49,169
1873 ...	74,893,882	5,738,638	15,373,120	233,091	53,659
1874 ...	88,662,011	6,373,641	13,591,760	199,564	56,993
...	935,114,929	67,459,476	176,470,469	2,725,006	1,731,411

EXPORTED FROM VICTORIA FROM 1851 TO 1874.

	Tons.	Cwt.	Qrs.	Lbs.	Value.
Wool ..	417,462	0	1	21	£67,459,476
Tallow ..	78,781	9	0	21	2,725,006
Hides and Skins ..	..	..	..	..	1,731,411
Total ..	..	..	..	..	£71,915,893

PRINCIPAL ARTICLES OF IMPORT AND EXPORT.

	Imports, 1874.	Exports, 1874.
Apparel and slops ..	£301,430	£174,996
Bags and sacks (including wool-packs ..	204,831	
Beer and cider ..	295,016	

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	Imports, 1874.	Exports, 1874.
Books	£128,726	£27,753
Stationery and paper	235,292	47,283
Boots and shoes	208,177	77,357
Candles	152,279	
Coals	244,614	
Cottons	692,778	
Haberdashery and Drapery ..	369,933	163,075
Fish	121,785	
Fruit, including currants and raisins	128,023	
Glass and glassware	93,587	
Hardware	87,652	96,328
Grain, including rice	566,659	70,050
Hats, caps, and bonnets ..	120,003	
Hops	55,000	
Hosiery	150,983	
Iron and steel	564,173	
Jewellery	55,692	
Leather and leatherware ..	119,701	194,479
Linen piece goods	52,133	
Live stock	1,178,583	113,151
Machinery	114,024	48,063
Military and Government stores	332,299	
Nails and screws	50,910	
Oils of all kinds	255,654	64,884
Opium	58,453	
Silks	323,609	
Specie	186,797	153,498
Spirits	517,723	148,448
Sugar and molasses	1,081,408	277,354
Tea	490,998	238,749
Timber	478,403	
Tobacco, cigars, and snuff ..	278,060	171,668
Wine	170,779	56,514
Woollens and woollen piece goods	1,096,870	71,621
Horns and hoofs		3,783
Potatoes		40,891
Soap		6,685
Flour and biscuits		60,213
Bones and bone dust		10,911

EXPORTS, 1874.

		Value.
Fresh meat	8,779 lbs.	£111
Victorian preserved meat ..	6,758,336 „	152,724

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				Value.
Other preserved meat	..	2,577 lbs.	..	£128
Salted meat	434 cwt.	..	1,210
Bacon	19,562 lbs.	..	814
Hams	.. ..	15,267 "	..	755
Salted beef	.. ..	1,528 cwt.	..	2,611
" pork	.. ..	480 "	..	1,224

WOOL EXPORTED, 1874:—

				Lbs.
Greasy	.. ..	..	..	45,365,693
Scoured	.. ..	..	..	6,879,963
Washed	.. ..	..	..	36,416,355

In all, 265,540 bales, valued at £6,373,641.

HIDES:—

				Value.
3511	.. ..	..	..	£3,923

SKINS:—

812 packages	.. ..	..	..	9,988
15,385 kangaroo	.. ..	..	..	841
1448 packages pelts	.. ..	..	..	6,917
264,180 sheepskins	.. ..	..	..	35,324

HORNED CATTLE:—

Seaward, 102	4,406
Overland, 1309	7,383

SHEEP:—

Seaward, 16,221	27,699
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HORSES:—

Seaward, 3182	69,975
Overland, 567	3,156

LEECHES:—

13 packages	13
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STOCK IMPORTED OVERLAND, 1874-5, AS NOTED BY THE INSPECTORS:—

Horses	9,576
Cattle	86,329
Sheep	771,479
Pigs	1,247

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PORTS IN VICTORIA.

	Imports.	Exports.
Melbourne	13,542,314	13,961,355
Geelong	236,038	1,274,614
Portland	2,348	2,592
Port Fairy	2,298	1,643
Port Albert	1,189	
Warrnambool	24,664	13,889
Cowana (opposite Wentworth)	969	370
Echuca (opposite Moama) ..	2,104,868	77,153
Narung (opposite Wakool) ..	50,451	5,059
Swan Hill	113,751	3,396
Tocumwall (a point opposite)	39,345	939
Wahgunyah (opposite Corowa)	411,191	22,632
Wodonga (opposite Albury) ..	424,559	77,467
	<hr/>	<hr/>
	£16,953,985	15,441,109

TARIFF.—This is avowedly levied for the purpose of protection. Ale, beer, cider, &c., 9d. per gallon; spirits, proof, 10s. per gallon, or 40s. for each reputed four gallon case, or 20s. for each two gallon case. Spirits, cordials, &c., sweetened or perfumed, 10s. per gallon; spirits methylated, 1s. per liquid gallon; sugars and molasses, 3s. per cwt.; tea, 3d. per lb.; timber, dressed, 1s. 6d. per 100 superficial feet; timber, undressed, 9d.; laths, 1s. per 1000; shingles, 6d. per 1000; palings, 6d. per 100; spokes and felloes, 6d. per 100; tobacco, manufactured, 2s. per lb.; unmanufactured, 1s. per lb.; varnish, 2s. per gallon; vinegar, 6d. per gallon; window sashes, 2s. per pair; wine, 3s. per gallon.

TWENTY PER CENT. AD VALOREM.—Apparel and slops, boots and shoes, carriages, furniture, hats, bonnets, jewellery, machinery, boilers, bolts and nuts, three-legged pots, crowbars, curling irons, knockers, door scrapers, dumb bells, engine castings and forgings; and an infinite number of articles which can be made and cannot be made, and never will be made in the colony, are all subject to this duty.

TEN PER CENT. AD VALOREM.—Mineral waters, chinaware, hardware, hollowware, elastic-sides, antimacassars, oilmen's stores, oils, perfumery, seeds, cordage, silks, blankets, woollen piece goods, or goods of cotton, linen, or material mixed with wool, stationery, and many other articles are subject to this duty.

ARTICLES EXEMPTED FROM DUTY.—A long list is comprehended under this heading, such as dress goods containing wool, taminies and winceys, tailors' serges, anchors, chain cables, arms, artists' materials, carriages and vehicles used in the conveyance of passengers across the border, patten ties, toe-caps, fibre, salt fish, &c. &c.

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EXCISE DUTIES.—Upon every gallon of spirits made from grain or wine, 6s.; upon every gallon from sugar, treacle, &c., 8s.; upon spirits, methylated (rendered previously undrinkable) five per cent.

DRAWBACKS.—To enable merchants to re-ship to other colonies, a drawback is allowed on the exportation of certain articles.

GOLD EXPORTED FROM VICTORIA FROM 1851 TO 1874.

(As per Mr. H. H. Hayter's Statistics.)

		Ozs.		Value.
1851	..	145,137	..	£438,777
1852	..	2,738,484	..	8,760,579
1853	..	3,150,021	..	11,090,643
1854	..	2,392,065	..	9,214,093
1855	..	2,793,065	..	11,070,270
1856	..	2,985,992	..	11,943,458
1857	..	2,762,461	..	10,987,591
1858	..	2,528,479	..	10,107,836
1859	..	2,280,950	..	9,122,037
1860	..	2,156,661	..	8,624,860
1861	..	1,967,420	..	7,869,758
1862	..	1,658,285	..	6,685,192
1863	..	1,627,066	..	6,520,957
1864	..	1,545,450	..	6,206,237
1865	..	1,543,802	..	6,190,317
1866	..	1,479,195	..	5,909,987
1867	..	1,433,687	..	5,738,993
1868	..	1,960,713	..	7,843,197
1869	..	1,700,973	..	6,804,179
1870	..	1,529,821	..	6,119,782
1871	..	1,647,389	..	6,590,962
1872	..	1,298,839	..	5,197,340
1873	..	1,291,014	..	5,168,614
1874	..	1,012,152	..	4,053,288
Total	..	45,629,121		£178,258,947

1697 tons 10 cwt. 0 qrs. 26 lbs., valued at £178,258,947, including £881,717 imported in 1874 from New Zealand.

REVENUE AND EXPENDITURE.

	Revenue.	Expenditure.
1855 ..	£2,728,656	£2,612,807
1874 ..	4,106,790	4,177,338

PUBLIC DEBT.—This, on 31st December, 1874, amounted to £13,990,553.

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ESTIMATED MEAN POPULATION AT EACH AGE, ON 30TH JUNE, 1874.

Ages.		Males.	Females.	Totals.
Under 5 years	.. ..	63,809	63,735	127,391
5 years to 10	.. ..	57,949	58,411	116,369
10 " " 15	.. ..	46,576	46,962	93,526
15 " " 25	.. ..	54,389	59,250	113,653
25 " " 35	.. ..	67,238	54,619	121,880
35 " " 45	.. ..	79,305	45,869	125,234
45 " " 55	.. ..	41,845	21,950	63,815
55 " " 65	.. ..	16,321	9,443	25,798
65 " " 75	.. ..	5,469	3,537	9,025
75 and upwards	.. ..	1,172	839	1,997
		<hr/> 434,073	<hr/> 364,615	<hr/> 798,688

This table of Mr. Hayter's compilation shows that out of a population of 798,688, the males numbered 434,073, and that between the ages fifteen and seventy-five, both inclusive, these numbered 264,567, and only can *they* be regarded as the bread winners of the community; and we prefer this mode of arriving at an estimation of in what degree taxation presses upon a people. Thus is it ascertained that the above small number contributed each towards the general revenue—before mentioned—£15 10s. 5½d.; that of the sum £1,896,842 raised by taxation each paid £7 3s. 4½d.; and that the public debt, viz., £13,990,553, is in reality to be borne at the rate of £52 17s. 7½d. per adult male at and over fifteen years of age. That this indebtedness is regarded so unconcernedly clearly exhibits the elasticity of the resources of the country.

RELIGIONS, as per Census 1871:—Church of England, numbered 257,835; Roman Catholics, 170,620; Presbyterians, 112,983; Wesleyans, 94,220; Independents, 18,191; Baptists, 16,311; Lutherans, 10,559; Jews, 3571; no denomination, 2737; no religion, 2150; objecting to state their religion, 9965; Disciples of Christ, 3540; Pagans (Chinese,) 17,650, &c. &c.

IMMIGRATION AND EMIGRATION.

	Immigration.	Emigration.
1864	36,156	21,779
1869	33,570	22,418
1874	30,732	27,365

TONNAGE OF SHIPPING.

	Vessels.	Tons.
1855. Inwards	1907	551,726
" Outwards	1995	581,557
1874. Inwards	2100	777,110
" Outwards	2122	792,509

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IMPORTS AND EXPORTS.

1855.	Imports	£12,007,939
"	Exports	13,493,338
1865.	Imports	13,257,537
"	Exports	..	..	..	..	13,150,748
1874.	Imports	..	..	..	..	16,953,985
"	Exports	..	..	..	..	15,441,109

AGRICULTURAL AND OTHER STATISTICS.—The Local Government Act requires that these shall be annually collected by the municipal bodies, and that persons giving incorrect information are liable to a penalty of £10. These returns are then dealt with by the government statist.

STOCK SLAUGHTERED, AND DECREASE OF SHEEP AND HORSES.—Mr. Hayter remarks:—"The gross numbers of live stock slaughtered in the year I estimate to be as follows:—Cattle, 70,600; sheep, 1,500,000; pigs, 85,000. Those I have termed the net numbers." Of stock slaughtered in 1874—Cattle, 263,326, at £8, £2,110,608; sheep, 639,963, at 10s., £319,981; pigs, 56,802, at £3, £170,406,— "are made up by adding to the gross numbers the increase of the cattle shown in the returns of 1874, as compared with those of 1873 (74,895;) also the exports of cattle (1411,) of sheep (16,221,) and of pigs (6,) and deducting from the same numbers the decrease of sheep as shown by the returns (102,044,) and of pigs (22,395;) also the imports of cattle (83,080,) of sheep (774,214,) and of pigs (5809.) I have made no allowance for the value of the increase of horse stock, as a total falling off of horses, amounting to 1613, appears to have taken place. This number is made up by subtracting the exports of horses (3749) from the imports of horses (5274,) and adding to the difference (1525) the decrease of horses (88,) as shown in the returns."

AGRICULTURE—UNDER CULTIVATION:—

						Acres.
1855	..	..	..	..	..	115,135
1865	..	..	..	..	..	530,196
1874	..	..	..	..	..	1,011,776

WHEAT:—

						Acres.	Bushels.
1865	..	..	..	178,628	..	..	3,514,227
1874	..	..	..	332,935	..	..	4,850,165

OATS:—

1865	102,817	.	2,279,468
1874	114,921	..	2,121,612

OTHER CEREALS:—

1865	12,017	..	226,880
1874	48,285	..	977,161

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POTATOES :—

				Acres.		Tons.
1865	31,644	..	83,166
1874	35,179	..	124,310

HAY :—

1865	97,902	..	96,101
1874	..	..	..	119,120	..	157,261

OTHER TILLAGE :—

					Acres.
1865	..	..	..	..	107,188
1874	..	..	..	..	361,359

PUBLIC WORKS, EXPENDITURE :—

1870	..	..	..	..	£191,573
1874	..	..	..	..	390,955

ROADS AND BRIDGES, EXPENDITURE :—

1870	..	..	..	..	36,832
1874	..	..	..	..	98,366

LANDS SOLD.—The total amount of land sold in the colony from its first settlement has been to the end of 1874, 9,929,388 acres, and free grants to 3245 acres—a total of 9,932,633 acres alienated; and the amount realised by the sales has been £16,786,146, or at the rate of £1 13s. 10d. per acre; but in 1874, 5,650,000 acres additional were in process of alienation by deferred payments of two shillings per acre per annum. The following table is presented by Mr. Hayter, as a summary of the public estate of Victoria, on 31st December, 1874 :—

CONDITION OF LAND.

	Acres.
Land alienated in fee simple	9,932,633
Land in process of alienation	5,650,395
Roads connected with above	779,157
Land included in cities, towns, &c.	231,040
Reserves in connection with pastoral occupation ..	350,000
Auriferous land	1,000,000
State forests, not included in unavailable mountain ranges	215,100
Timber reserves	306,976
Mallee scrub, mountain ranges, lakes, lagoons, &c.	23,000,000
Area available for selection	14,981,419
	<hr/>
	56,446,720

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RENTAL OF LAND FROM PRIVATE PERSONS.

The agricultural collectors report that the average duration of leases is from one to ten years, the rental per acre of agricultural land being 4s. to 30s. ; that of pastoral land being 2s. to 10s.

PURCHASED LAND UNDER CULTIVATION.

No. of holdings.	Size.		Land purchased and occupied. Acres.	Land in cultivation. Acres.
1,567 ..	1 acre to	5 acres ..	4,615 ..	2,670
3,625 ..	5 "	15 "	31,978 ..	14,088
3,892 ..	15 "	30 "	80,366 ..	26,104
3,355 ..	30 "	50 "	129,137 ..	35,992
6,320 ..	50 "	100 "	454,501 ..	104,684
7,376 ..	100 "	200 "	1,033,358 ..	194,539
8,229 ..	200 "	350 "	2,317,799 ..	274,633
1,408 ..	350 "	500 "	580,823 ..	88,364
2,694 ..	500 "	and upwards ..	7,631,999 ..	270,702
<u>38,468</u>			<u>12,264,576</u>	<u>1,011,776</u>

ESTATES OVER 320 ACRES, 1874-5.

No. of holdings.	Size. Acres.		Purchased land. in occupation. Acres.
1072 ..	321 to	400 ..	386,490
795 ..	401 to	500 ..	357,674
536 ..	501 to	600 ..	295,177
497 ..	601 to	700 ..	321,067
210 ..	701 to	800 ..	158,968
156 ..	801 to	900 ..	134,165
155 ..	901 to	1,000 ..	148,364
316 ..	1,001 to	1,500 ..	382,394
154 ..	1,501 to	2,000 ..	269,667
130 ..	2,001 to	3,000 ..	329,621
79 ..	3,001 to	4,000 ..	285,891
53 ..	4,001 to	5,000 ..	237,280
87 ..	5,001 to	7,500 ..	539,299
64 ..	7,501 to	10,000 ..	569,140
69 ..	10,001 to	15,000 ..	853,109
42 ..	15,001 to	20,000 ..	737,181
50 ..	20,001 to	30,000 ..	1,199,314
20 ..	30,001 to	40,000 ..	683,092
8 ..	40,001 and upwards	..	425,652

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RUNS occupied under Pastoral Licenses in 1874 :—864 runs covered 24,230,128 acres.

As the land continues to be sold by auction or to be selected, so do the number of runs and the area thereof diminish ; as well as the rental paid by the squatter to the State.

RENTAL OF RUNS.—This has lately (Dec., 1875,) been increased from four to five shillings yearly for each head of cattle and horses the run can depasture, and from eightpence to one shilling for each sheep. Last year the amount received was £125,938, or at the rate of 1·247d. per acre. In the previous year £140,786 was received, being at the rate of 1·308d. per acre. In 1874, 455 runs had 1,740,911 acres of purchased land attached to them.

LAND TENURE, 1874-5.

	Acres.
Freehold land	7,815,994
Purchased land rented	1,337,180
Crown lands selected, leased, &c. .. .	3,111,402
Crown lands under pastoral licenses .. .	24,230,128
Area in occupation	<u>36,494,704</u>

STATION HANDS EMPLOYED, 1874-5 :—

Males, 4638 ; females, 1275 ; total, 5913.

FARM HANDS EMPLOYED, 1874-5 :—

Males, 56,250 ; females, 25,231 ; total, 81,481.

CHAPTER XI.

LAND ACT—STATISTICS.

LAND ACT.—Under this statute, passed in 1869, free selection is authorised before survey, by any person, of forty acres up to 320 acres, over all the lands of the colony not as yet sold. A license is granted to occupy the selection—after the application is granted—for three years, during which time the licensee must reside two years and a half upon the ground. He must enclose it, cultivate one acre out of every ten, and expend £1 per acre on improvements. During the three years he pays two shillings per annum per acre as rent. After the expiration of three years, having complied with these conditions, and having obtained a certificate to this effect from the Board of Land and Works, he can at once acquire the fee-simple by paying up fourteen shillings per acre—the six shillings he has already paid as rent being credited him as part payment of one pound, the upset price of the land—or he can convert his license into

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a seven years' lease, at an annual rental of two shillings per acre, which will also be credited to him as part of the purchase money; and thus, having annually paid two shillings per acre during ten years, he will have paid for the land, and be entitled to his crown grant.

LAND REGULATIONS.—Those of 30th March, 1874, provide that a trench, two feet long, six inches wide, and four feet deep, be dug between nine a.m. and four p.m. That a conspicuous post or cairn of stones be placed at each corner (or at each corner of each parcel, if the allotment be of more than one parcel,) and that a notice in writing be affixed on each post, stating area, name, and address of applicant, and that he applies for such allotment as per forms supplied by the government. Within four days he must post his application to the Government surveyor of the district, or deliver it to him between the hours of eleven and two, or on Saturdays between eleven and twelve in the morning. If the application be for the whole of an allotment already surveyed, the applicant pays only half survey fees.

ROYAL MINT.—Since 1872 gold has been coined, amounting to £3,860,225—with exception of 165,000 half-sovereigns—all in sovereigns.

MORTGAGES AND LIENS, 1874.—On land, 4988, covered £4,577,649; on live stock, 548, covered £963,916; on wool, 393, covered £478,339.

RELEASED MORTGAGES.—On land, 3144, £2,543,960; on live stock, 78, £548,542; on wool, 1, £2000.

BILLS OF SALE.—During the year, 3207, securing £727,370, were effected; and 251, amounting to £98,492, were satisfied.

BUILDING SOCIETIES.—Sixty societies, numbering 20,303 members in 1874, had an income of £898,857. They had advanced, so far as is known, £649,423; had assets, £2,284,202; and liabilities, £1,800,436, and allowed 6 to 7 per cent. on deposit.

PUBLIC LIBRARY.—This is a handsome building, erected originally at a cost of £107,990, and upon which the State has since expended £107,269. It contains 83,231 volumes, and is open, free, to the public. Mainly to the incessant exertions of Sir Redmond Barry is the colony beholden for this noble institution, said to be second to none south of the Line.

NATIONAL GALLERY.—This building, in proximity to the Library, contains statues, paintings and works of art, all free to the public.

NATIONAL MUSEUM.—A building erected at a cost of £8475, adjoins the University, and is open daily, free, to the public. The industry of Professor McCoy has collected, and, with his scientific knowledge, he has arranged herein such a vast number of specimens of Natural History, as to render a visit hereto most pleasurable and instructive. In fact hours, daily, might be profitably passed in examining the stuffed animals (real skins,) the antediluvian animals,

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the superbly plumaged birds—we believe such a collection of the parrot tribe does not exist in Europe; and the shells, some most minute, yet faithfully arranged according to nomenclature.

CHARITIES AND FRIENDLY SOCIETIES.—In the colony are thirty-two general hospitals—A Lying-in Hospital, a Blind Asylum, Deaf and Dumb Asylum, Eye and Ear Hospital, Children's Hospital, five Benevolent Asylums, Immigrants' Home, seven Orphan Asylums, nine Industrial and Reformatory Schools, Hospitals for the Insane, four Female Refuges, and a Sailors' Home, besides four Free Dispensaries, which treated 4509 persons. Thirty-two Friendly Societies, having 710 lodges, number 42,664 members; their income in 1874 amounted to £138,034, and their expenditure to £122,428; at the end of the year £266,073 was to their credit.

ALFRED GRAVING DOCK AT WILLIAMSTOWN.—This is the largest dry dock in the Southern Hemisphere. It is built of bluestone, is 450 feet in length on the floor, and 456 feet over all. It is ninety-seven feet between the copings, and eighty feet wide at the entrance. It has a depth of water over the silt, at ordinary tides, of twenty-four feet six inches at low water, and of twenty-six feet six inches at high water. The cost of the dock proper has been £223,000, besides £20,000 for the pumping machinery and caisson. Every description of work in connection with shipping or machinery can be performed in the Government workshops adjoining the dock.

RAILWAY LINES OPEN AND IN COURSE OF CONSTRUCTION.—The Government lines open run over 615½ miles. The private lines over seventeen and three-quarter miles, and the Government lines now (December, 1875) in course of construction measure 300 miles.

POST OFFICES.—Eight hundred and two offices sent forward 15,738,888 letters, and 6,866,918 newspapers; the income being £194,339, and expenditure £288,574.

TELEGRAMS.—From 148 stations—over 4464 miles wire—701,080 messages passed; the income being £42,825.

CITIES, TOWNS, AND BOROUGHES.—There are sixty, having property £27,324,605, rated at £449,574. The occupier of property rated under £50, is entitled to one vote at elections of councillors; under £100, to two; and over £100 to three votes.

SHIRES AND ROAD DISTRICTS.—These number 110, having property rated at £32,890,838, yielding a revenue of £535,440. The occupier of property rated at less than £25, is entitled to one vote at elections of councillors; over £25 to two; and over £75 to three votes.

SCHOOLS.—In 1874, 1111 State schools, conducted by 3715 teachers, educated 216,144 children; whilst 610 private schools, under 1509 masters, instructed 22,448 scholars. The education imparted by the State is unsectarian and gratuitous.

Melbourne Grammar School, with seven masters, had 123 scholars. Geelong Grammar School, with eight masters, had 137 scholars.

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Scotch College, Melbourne, with fifteen masters, had 335 scholars.

Wesley College, with eleven masters, had 271 scholars.

St. Patrick's College, with nine masters, had 158 scholars.

UNIVERSITY.—This has been endowed by Government with £9000 annually paid; and by H. M.'s letters patent this University has the like privileges in granting academic distinctions, as are possessed by any university in the United Kingdom. A magnificent hall, 160 feet long by fifty-three feet wide, is about being built, through the munificence of Sir Samuel Wilson, who for that purpose has presented £30,000 to the University. One hundred and eighteen students have matriculated, and there are twenty-four undergraduates.

BANKS.—Eleven banks, with an aggregate capital of £8,503,033, in 1874, had assets £20,456,852, and liabilities £14,105,460. They held gold and silver, £2,746,350; besides landed property, Government and other securities. They had issued notes £1,395,502, and had deposits amounting to £12,438,586. They allowed four to six per cent. interest on deposits, charged eight to ten per cent. discount on bills, and granted drafts on London at half to one per cent. premium; on India, five per cent.; on New South Wales, one-tenth to one-fourth per cent.; on Queensland, half to one per cent.; on Tasmania, half to one-fourth per cent.; on New Zealand, one-fourth to half per cent.

SAVINGS' BANKS.—In eleven ordinary savings' banks 26,214 persons held £980,211 deposits; and in 146 post office savings' banks 37,800 depositors held £637,090—in all £1,617,301, held by 157 persons—receiving four per cent. per annum interest.

MANUFACTORIES.—In March, 1875, these numbered 2109, employed 28,036 hands, and the value of the land, buildings, and machinery appertaining thereto, was £6,798,820.

FLOUR MILLS.—These numbered 161, having 2835 horse-power, and 485 pairs of stones. They employed 749 men, and operated upon 5,371,866 bushels wheat, and 233,150 bushels of other grain; producing 114,929 tons flour and 2664 tons meal.

BREWERIES.—107 establishments employed 925 hands, 663 horses, and 364 drays.

STONE QUARRIES.—172, employed 1009 hands.

BRICK-YARDS AND POTTERIES.—296, employed 1271 hands.

MINERS.—On 31st December, 1874, these numbered 45,151, of whom 32,971 were Europeans, and 12,180 Chinese. The quartz miners being 14,473, and the alluvial 30,678. Since 1864, the number of miners has decreased by 39,835; whilst the number engaged in farming and in manufactures has increased almost in the same ratio.

THE MACHINERY on the goldfields has been valued at £2,078,936; the value of the claims being £7,424,024. The number of leases granted by the Government and now in force is 1996, leasing 26,601 acres, and yielding a revenue of £23,089 2s. 7d. annually to the State.

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MINERALS.—Silver, iron, copper, lead exist and are exported; but, as yet, in no large quantities. Tin is likely to become a source of permanent wealth, as it abounds in many localities.

OBSERVATORY.—The collection of instruments in use is most complete. The great Melbourne Telescope—"Cassegrain" construction; large mirror four feet in diameter, focal length, thirty feet six inches; small mirror eight inches in diameter, focal length, seventy-four feet seven inches—is one of the finest telescopes in the world, and, with the building, cost over £7000.

ACCLIMATISATION SOCIETY OF VICTORIA.—This society has done good service in introducing pheasants, quail, and hares, which are rapidly spreading, owing to the singular fact that, whereas in England the does breed but two at a birth, here they often produce six or seven, and breed three times a season. They have liberated herds of axis, fallow deer and hog deer; have introduced several varieties of fish; and possess a fine menagerie of imported animals. They are willing to exchange birds and animals with any foreign society. Kangaroos, wallabies, opossums (all pouched animals,) emus, native companions, a snake-eating stork, and an infinite number of the most brilliant plumaged parrots and paroquets abound, and are domesticated.

CHAPTER XII.

ELECTRIC TELEGRAPH—FOREIGN MAILS.

ELECTRIC TELEGRAPH TARIFF.—There are 155 stations in Victoria, and the offices are open from 8 a.m. to 8 p.m.—Sundays excepted.

THE RATE for ten words to any part of the colony is one shilling, and for each additional word one penny.

THE RATE from any station in Victoria to any station in the adjoining colonies is as follows:—

TO SOUTH AUSTRALIA.—Eighty-six stations.—For ten words, two shillings, and twopence per additional word.

TO PORT DARWIN.—Thirteen stations.—For ten words, twelve shillings, and elevenpence per additional word. To the intermediate stations on the line in proportion to the distance.

TO NEW SOUTH WALES.—148 stations.—For ten words, two shillings, and twopence per additional word.

TO QUEENSLAND.—103 stations.—For ten words, three shillings, and threepence per additional word—a uniform charge throughout the colony.

TO TASMANIA.—Twenty-seven stations.—For ten words, six shillings, and sevenpence each additional word. The name and address must not exceed ten words, or the additional number will be charged for.

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TELEGRAMS FOR NEW ZEALAND AND WEST AUSTRALIA will be received at any station in Victoria, and will be posted by the department without extra charge beyond the Victorian rate.

WESTERN AUSTRALIA will, in March, be connected by wire with the other colonies. The inland rate from Albany, or any station to any other—eighteen stations—is one shilling for ten words, and one penny per additional word.

NEW ZEALAND will, in February, be connected by wire with the other colonies. The inland rate is one shilling for ten words, and one penny per additional word, from any station to any other—about 100 stations—the North and South Island (middle) are already connected by wire.

FOREIGN TELEGRAMS.—The tariff quoted under the heading "South Australia" has been annulled, and the following are the cablegram rates which came into force on the 1st January, 1876, from South Australia, Victoria, and Tasmania to the undermentioned countries:—"For each separate word to Aden, 10s. 1d.; Algeria and Tunis, 10s. 6d.; China—Hong Kong, 8s. 2d.; Amoy and Shanghai, 9s. 10d.; Cochin China, 6s. 11d.; Egypt, 11s. 4d.; Europe, including United Kingdom, 10s. 6d.; India, west of Chittagong, 7s. 10d.; east of Chittagong, 8s. 1d.; Ceylon, 8s. 1d.; Japan, Nagasaki, 11s. 6d.; Yokohama, &c., not yet arranged; Java, 4s. 3d.; Penang, 5s. 8d.; Persia, 9s. 11d.; Russia in Asia, 11s. 6d.; Singapore, 5s. 8d.; Turkey in Asia, 1st region, 9s. 3d.; 2nd region, 9s. 6d.; 3rd region, 9s. 9d.; Europe, *viâ* Hong Kong and Amoor, 16s. 6d.; South America, not yet settled. The North American rates have been reduced 1s., thus the charge per word from London to New York is 3s.; from Adelaide to New York, 13s. 6d." It must be remembered that from Victoria the local charge of 2s. for ten words to Adelaide has to be added to the above rates.

SUNDAY MESSAGES.—These, if dropped in the box in Bourke-street before 9.30 p.m., will be forwarded on Sunday night, provided that they be accompanied with the additional fee, five shillings per fifty-eight words or under, and one penny per additional word; and also provided that they relate to sickness or death, arrival or departure of friends by land or by sea, or that they be important press telegrams.

SAN FRANCISCO MAIL ROUTE.—Letters to the United States, Oregon and Canada are forwarded by this route, or will be forwarded *viâ* Southampton, if so endorsed; but letters for the United Kingdom will not be forwarded hereby, unless specially endorsed *viâ* California, and must be fully prepaid. A contract steamer leaves Sydney, *viâ* Kandavu, Auckland, and Honolulu, every twenty-eight days from 11th February, 1876, the mail being due at San Francisco in twenty-six days; and the return mail is due at Sydney every twenty-eight days from 2nd February.

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LETTERS VIA CALIFORNIA.—To United States, including California and Oregon, not exceeding half-ounce, sixpence; and for every additional half-ounce or fraction thereof sixpence.

PACKETS VIA CALIFORNIA.—To United States, not exceeding one ounce, one penny; not exceeding two ounces, twopence; not exceeding four ounces, fourpence; six ounces, eightpence; eight ounces, also eightpence; ten ounces, one shilling; twelve ounces, also one shilling; fourteen ounces, one shilling and fourpence; sixteen ounces, the same.

NEWSPAPERS VIA CALIFORNIA.—To the United States, including California and Oregon, one penny each.

LETTERS VIA CALIFORNIA OR SOUTHAMPTON.—To United Kingdom, not exceeding half-ounce sixpence, and for every additional half-ounce sixpence.

PACKETS VIA CALIFORNIA OR SOUTHAMPTON.—To United Kingdom, not exceeding one ounce, one penny; two ounces, twopence; four ounces, fourpence; six or eight ounces, eightpence; ten or twelve ounces, one shilling; fourteen or sixteen ounces, one shilling and fourpence.

NEWSPAPERS VIA CALIFORNIA OR SOUTHAMPTON.—To United Kingdom, each one penny.

CLOSING TIME OF FOREIGN MAILS.—For ordinary letters, *via* Southampton or Brindisi, usually at 10 a.m. on day of sailing; for newspapers, *via* Southampton, at 9 a.m. on day of sailing; for newspapers, *via* Brindisi, at 10 a.m. on day of sailing.

A SUEZ MAIL STEAMER starts from Melbourne every twenty-eight days, from twenty-fourth February, 1876; and the return mail is due at Melbourne every twenty-eight days, from eighth February. *Via* Brindisi, letters are due in London in forty-six days; *via* Southampton, in fifty-three days.

LATE FEES.—Any foreign letters posted from 10 to 10.30 a.m., on the day of sailing of the steamer, must bear an extra stamp, threepence; from 10.30 a.m. to 12.45 p.m., sixpence; and at the company's office or on board the steamer, one shilling.

LETTERS—UNITED KINGDOM VIA BRINDISI.—Not exceeding half-ounce, ninepence; for every additional half-ounce, or fraction of half-ounce, ninepence.

PACKETS—UNITED KINGDOM VIA BRINDISI.—Not exceeding one ounce, twopence; not exceeding two ounces, fourpence; not exceeding four ounces, sevenpence; and for every additional four ounces, sevenpence.

NEWSPAPERS—UNITED KINGDOM VIA BRINDISI.—Not exceeding four ounces, threepence; for every additional four ounces, or fraction thereof, twopence; *via* Southampton, one penny each.

CAPE OF GOOD HOPE VIA ADEN.—Letters addressed, *via* "Aden and Zanzibar," will be sent by the Suez Mail, and will be forwarded on from Aden, *via* Zanzibar, Mozambique, and Natal; connecting at

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the Cape with the mail packets from St. Helena and Ascension. Letters by this route are charged, to all ports on the east coast of Africa, per half-ounce, one shilling and fourpence. Newspapers, each twopence. Letters to St. Helena and Ascension per half-ounce, two shillings and threepence; newspapers, threepence.

FIJI LETTERS.—For every half-ounce or fraction thereof, sixpence.

PACKETS to Fiji not exceeding one ounce, one penny; not exceeding two ounces, twopence; every additional two ounces, twopence. Newspapers one penny each.

TORRES STRAITS MAIL ROUTE.—A mail is made up in Melbourne for the steamer, which leaves Brisbane every twenty-eight days, from second January, 1876, and is forwarded to Sydney for onward despatch; being due at Singapore in twenty-four days; the return mail being due at Sydney every twenty-eight days, from thirty-first March. The postage rate is the same as *via* Suez.

INDIA AND CHINA.—Japan, Singapore, Batavia, East Indian Archipelago, *via* Point de Galle, or *via* Torres Straits.—Letters not exceeding half-ounce, one shilling; and for every additional half-ounce, one shilling. To the United Kingdom, the same as to Southampton.

PACKETS.—To India and China, by above routes. Not exceeding one ounce, one penny; two ounces twopence; and for every additional two ounces, twopence.

NEWSPAPERS, to India and China, each one penny.

CHAPTER XIII.

INTERCOLONIAL EXHIBITION, 1875—STATISTICS.

THE INTERCOLONIAL EXHIBITION.—This covering 78,000 feet, and containing 4500 exhibits, was held in Melbourne in September, October, and November, 1875, and has been most successfully brought to a close. The total expenditure has amounted to £9000; whilst the sum of £8000 has been received from entrance fees paid by nearly 300,000 visitors. The daily and nightly throng perambulating the building, listening to the organ, or to the bands of music, and the concourse of persons who have assembled from all parts of the colony, manifests the interest which every class has taken in the undertaking; so effectually inaugurated and carried through by the exertions of the Philadelphia Royal Commission, *viz.*:—Sir Redmond Barry, Knight, Acting Chief Justice of Victoria (President), Honourable J. J. Casey, M.P., Honourable J. F. Sullivan, M.P., Honourable C. J. Jenner, M.L.C., J. Munro, Esq., M.P., J. Gatehouse, Esq., Mayor of the city, J. McIlwraith, Esq., councillor, Rev. J. J. Bleasdale, D.D.;—the able Secretary to the commissioners being Mr. George Collins Levey.

We have already noticed the number of factories and hands employed, and this exhibition attests the great skill attained by the

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manufacturers, which, if all restrictions be removed from inter-colonial trade—not that we advocate the withdrawal of protection on any article which can be manufactured in the colony, as good faith must be kept with manufacturers who have invested their capital—may cause Victoria to become the *dépôt* from which the other colonies will be able to supply themselves, with certain articles, on more advantageous terms than they can procure them from Europe; especially as they can more readily establish a credit here. Assuredly, in some trades, so excellent is the Victorian work that it cannot be excelled by that of any other country. This is due to the spirit evinced by the masters, having from time to time secured at the highest rates of wages the very best workmen in Europe, who are now instructing the rising generation.

GOLD.—The amount exported in 1874 was £4,053,288, and in 1864 £6,206,237.

WOOL.—In 1874 wool, to the value of £6,373,641, was exported; in 1864, £3,250,128. Gradually the production of wool is increasing, and that of gold is decreasing. Respecting the weight and length of wool staple, the *Telegraph* notices "that Mr. William Davis, of Coburg, had two lambs shorn recently, the fleeces of which yielded nearly 38 lb. 8 ozs. of wool. The lambs are only eleven months old, and are of pure Lincoln breed; the wool being one of the best samples we have seen, fully six inches in length." The *Hamilton Spectator* says: "Twelve shillings per day would not be a very extravagant sum for shearing Messrs. T. and S. Austin's long woolled prize Lincoln sheep, judging from the fact that three of them recently yielded the following results:—The Champion, two years old, 25½ lb.; the second prize ram, 25 lb.; and third prize, 25½ lb."

We can but hastily name some few of the manufactures established in the colony which, on account of their excellence, have been awarded medals by the jurors.

Woollen Manufactures—Tweeds,

Shawls, Blankets, and Bal-
larat Flannel.

Furniture and Ironmongery.

Carriages and Buggies.

Billiard Tables.

Agricultural Implements.

Machinery.

Clocks and Jewellery.

Photographs.

Leather.

Boots and Shoes.

Confectionery.

Soap.

Organs and Pianos.

Brushware.

Rope.

Glassware—Soda Water Bottles,
Show Glasses, &c.

Mirrors—Silvered in Melbourne.

Gas Stoves and Ovens requiring
but little fuel.

Bookbinding.

Electrotypes.

Saddles, Harness, and Whips.

Preserved Meats.

Hams, Bacon, and Cheese.

Soda Water, equal to Schweppes.

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Pre-eminently before all our factories ought to be mentioned that of the Victoria Sugar Company. Literally they have invested over £300,000, and for years—after importing the raw sugar—have turned out, by aid of their beautiful machinery, the most brilliant and refined sugars.

The models of fruits in great variety which have been cast by Mr. McMillan from the originals, expressly to be sent to the Philadelphia Exhibition, abundantly prove the fertility of the soil of Victoria, as during the season in numerous fruiterers' shop windows, may be seen fruits of similar excellence. The models to be sent are pomaceous fruits, including the apple, pear, and allies—quince, loquat, peach, nectarine, berried fruits, grape, mulberry, fig, orange, citron, gooseberry, currants (black, red, and white,) raspberry, strawberry, nuts, tomato; with photographs of the cucumber, melon, and gourd.

AUSTRALIAN WINES.—These, contributed from New South Wales and South Australia, as well as from various parts of Victoria, are well represented. The test to which the "must" of the Albury grapes was lately submitted by the New South Wales and Victorian Government inspectors, demonstrates that Australian wines contain twenty-nine per cent., and even thirty-four per cent. of alcohol; and entirely confutes the assertion in *Land and Water*, on the authority of Dr. B. W. Richardson, that "a *bona fide* wine derived from the fermentation of the grape purely, cannot contain more than seventeen per cent. of alcohol." The *Age* remarks:—"In order to place beyond doubt any question as to what is the strength of many of our Australian wines, the chief inspectors of distilleries of New South Wales and Victoria met at Albury during the last vintage, had the grapes pulled and pressed under their own immediate inspection, and the must so procured, after being fully fermented, has since been carefully tested in Melbourne by Mr. Moody and his assistant, Mr. Heath. Judging from the report, no possible precaution that could be taken to secure accuracy has been omitted, and the result is that out of the eleven samples reported upon, the lowest contained more than twenty-nine per cent. of alcohol, and the highest no less than 34.1 per cent. These facts will, no doubt, surprise many who have already had a high opinion of the strength of our Australian wines, and will certainly have a considerable influence upon the export wine trade of these colonies."

Messrs. A. and R. Caughey, the colonial wine merchants, inform us that the average strengths of wines grown south of the Dividing Range, are, in the Goulburn District, about Seymour, &c., twenty-two per cent.; on the stiff red clay of Victoria, about twenty-six to thirty per cent.; and on the sand-hills, about the Murray, about twenty-two per cent.

THE MOST NOTICEABLE EXHIBITS of foreign manufacture have been the magnificent collection of curiosities forwarded by Japanese merchants; particularly most chastely designed, and delicately coloured

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specimens of the ceramic art. These have been carefully arranged under the direction of two commissioners, accredited by the Japanese Government, namely, Mr. Harua Sakata and Mr. Hashimoto. They visited in a similar capacity the Vienna Exhibition of 1873, have adopted the European costume as accurately as any fashionably-dressed European gentlemen, and are esteemed as intelligent, gentlemanly men. They are accompanied by their secretary, Mr. Robert Page, and by two officials, Mr. Funaki and Mr. K. Eda, who have been deputed by their Government to investigate our system of agriculture, and the breeding of sheep. As cattle are scarce, but little animal food is used in Japan, and manure cannot, consequently, be made, although they are most solicitous upon the subject. "Every spot is made productive, and the terraced mountains exhibit an astonishing proof of what can be effected by human ingenuity and perseverance when prompted by necessity."

These commissioners represent a powerful empire, in area 270,211 square miles—a cluster of islands lying between latitude, north, 31° to 46°, and longitude, east, 130° to 145°, subject to frequent earthquakes—separated by the Straits of Korea, and the Sea of Japan from Korea and Manchuria. This people have shown recently every indication that they are about emerging—highly polished and civilised nevertheless—from the seclusion in which for ages they have been buried; and that they intend to take the place in the family of nations to which they are entitled by their population, wealth, and intelligence. They have proved that they are not afraid to go to war with China, and under an enlightened monarch, the Mikado—the tycoon and damios (nobles) being now powerless—are constructing railways, telegraphs, ironclads; and, under European officers, are organising an army and navy. The population numbers 35,000,000. The people are gentle, peaceable, polite, and brave; and are highly skilled mechanics. They have opened seven ports to foreign traders. All classes are educated; and such is their desire to progress that, in 1872, a college, with European professors, was established in Yokohama, the capital. The revenue in that year was £10,375,110, and the expenditure £9,707,327, whilst the public debt amounted to £23,300,200.

So fine are their feelings, so susceptible are they of an indignity, that they—guilty or innocent—cannot brook death by the hands of an executioner, for the happy despatch is or was recently the recognised and only honourable mode of a nobleman who had offended the emperor cheerfully terminating his existence. An authority says—"Persons holding high civil offices under the Government, are bound when they have committed any crime, to rip themselves up, but not till they have received an order from the court to do so; for if they were to anticipate this order, their heirs would run the risk of being deprived of their place and property. As soon as the order of the court has been communicated to the culprit, he invites his intimate

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friends for the appointed day, and regales them with 'zakki.' After they have drunk together some time he takes leave of them, and the order of the court is then read to him once more. He then addresses a speech or compliment to the company; after which he inclines his head towards the west, draws his sabre and cuts himself with it across the belly, penetrating the bowels. One of his confidential servants, who takes his place behind him, then strikes off his head. Such as wish to display superior courage, after the cross cut, inflict a second longitudinally, and then a third in the throat. No disgrace is attached to such a death, and the son succeeds to the father's place. The sons of all people of quality exercise themselves in their youth for five or six years, with a view that they may perform the operation in case of need, with gracefulness and dexterity; and they take as much pains to acquire this accomplishment, as youth among us do to become elegant dancers or skilful horsemen. This disregard of death, which they prefer to the slightest disgrace, extends to the very lowest classes among the Japanese."

CLIMATE OF VICTORIA.—The Spring months are September, October, and November; Summer—December, January, and February; Autumn—March, April, and May; Winter—June, July, and August. The north is the hot wind, and perhaps six or eight times in the summer, a perfect sirocco sets in—the air being as hot as that from an oven—this usually lasts three days. Although delicate people are much prostrated while this wind lasts, yet they quickly become reanimated by it suddenly veering round southerly, and at once warm clothing is needed. Considering the carrion and masses of putrified flesh lying about, as well as the pools of stagnant water, few can doubt that this wind has a most beneficial influence in purifying the atmosphere, and may account for the freedom from epidemics. The mean temperature in spring is 62°; in summer 76° 5'; in autumn 61° 9'; and in winter 49° 2'. This, the south-eastern portion of the continent, is considered the most enjoyable climate in Australia, though not so cool as that of Tasmania. Floods occur sometimes in October and November, but there is no humidity in the atmosphere, which is always genial; and the lovely blue sky is usually cloudless.

SOIL.—As to the weight of crops, wheat, during the past year, ranged from 50 lbs. to 68 lbs., according to locality; oats, 36 lbs. to 44 lbs.; barley, 46 lbs. to 56 lbs.; and maize, 48 lbs. to 58 lbs. The Victorian standard being for maize, wheat, beans, pease, &c., 60 lbs.; for oats, 40 lbs.; for barley, 50 lbs.

THE PRESS OF VICTORIA.—Melbourne has three daily morning papers—the *Argus*, *Age*, and *Telegraph*; and one evening paper—the *Herald*; also three weekly papers—the *Australasian*, *Leader*, and *Weekly Times*.

Ballarat has two daily morning—the *Star* and *Courier*, as well as an evening paper.

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Sandhurst has two daily morning—the *Bendigo Independent* and *Bendigo Advertiser*, and an evening.

Geelong has one daily morning—the *Geelong Advertiser*, and an evening.

Castlemaine, Beechworth, Stawell, Sale, and every town in the colony, of any importance, can boast of the publication of a daily morning, or weekly paper; and these newspapers, widely differing in politics, are so ably and faithfully conducted as to be really exponents of public feeling, and exert much influence over the same. They fearlessly denounce bribery and corruption, hypocrisy, and religious persecution; as a rule, inculcate that we ought to be proud of forming a portion of the British Empire, and with one general voice are averse to breaking the mere silken cord which binds the colony to the mother country. Every household takes in a newspaper, and this shows the literary taste of the community, as does the immense stock of costly books held and received every mail by Mr. George Robertson, who not only supplies, wholesale, almost every bookseller in this colony, but in all the adjacent colonies. These again supply the wealthy merchants and squatters, who, when furnishing their houses in princely style, do not forget to secure a well-stocked and elegant library; but the whole community is an essentially reading people, as is denoted by the attendance at the Athenæum; Mullen's and Barber's libraries, in Collins-street; and at all the Mechanics' Institutes throughout the colony.

SUPREME COURT JUDGES.—The Hon. Sir W. F. Stawell, Kt., is the Chief Justice; the Puisne Judges being the Hon. Sir Redmond Barry, Kt., the Hon. Robert Molesworth, the Hon. T. H. Fellows, the Hon. J. W. Stephen.

POPULATION OF MELBOURNE.—Melbourne, with suburbs, is estimated now to contain 230,000 souls. According to the census of 1871, Melbourne city contained 54,994 persons; Hotham town, 13,492; Fitzroy town, 15,547; Collingwood town, 18,598; Richmond town, 16,889; Brunswick borough, 4388; Prahran town, 14,096; Emerald Hill town, 17,101; Sandridge borough, 6388; St. Kilda borough, 9085; Brighton borough, 3059; Hawthorn borough, 3329; Kew borough, 2430; Footscray borough, 2473; Williamstown borough, 7126; Essendon and Flemington borough, 2456, and remainder of the district 13,290; shipping in Hobson's Bay and River, 2039; in all, 206,780.

CHAPTER XIV.

PRINCIPAL UP-COUNTRY TOWNS AND GOLD-FIELDS—GOLD AND MINERAL LEASES.

THE population of the principal up-country towns stood, in 1871, in the following order:—Ballarat, 47,201—viz., Ballarat city, 24,308; Ballarat East town, 16,397, and Sebastopol borough 6496.

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Sandhurst, 28,577—viz., city, 21,987; Eaglehawk borough, 6590. Geelong, 21,459—viz., Geelong town, 15,026; Newtown-cum-Chilwell borough, 4749, and South Barwon, 1684. Castlemaine, 9322—viz., town, 6935, and Chewton, 2387; Clunes, 6068; Stawell, 5166; Daylesford, 4696. Of 458 cities, towns, boroughs, and townships, three contained over 20,000 each; nine over 15,000; eleven over 10,000; nineteen over 5000; twenty-two over 4000; twenty-seven over 3000; forty-one over 2000; seventy-one over 1000; and 116 over 500. In 1871, the population of the gold-fields numbered 270,428, of whom the females numbered three-fourths of the number of males.

BALLARAT is 100½ miles by rail from Melbourne, the country gradually rising from the coast. The greatest height is attained at Warrenheip, which is 1725 feet above sea level, we then descend 310 feet in four miles and a quarter, and Ballarat is reached at an altitude of 1415 feet.

BALLARAT has long been considered the metropolis of the gold-fields; and although, in the future, Sandhurst, no doubt, will out-distance her in yield of gold, yet we believe Ballarat will remain a flourishing up-country *entrepôt*; for there she stands, a city with over 100 miles of metalled roads, adorned with a splendid town hall, eight banks, in structure not second to those of Melbourne, churches, chapels, mansions, a noble mechanics' institute, villas, and shops, with handsome plate-glass fronts, in close proximity to a highly fertile tract of country. Just before harvest-time, a most delightful ride can be taken, by proceeding to Lake Burrumbeet, fourteen miles, then across to Lake Learmonth, and back by Miners' Rest, the whole distance through waving crops and undulating country. A residence of fourteen years on Ballarat enables us to testify to the extraordinary energy of the inhabitants, undismayed by the magnitude of any difficulty in reaching the gold, which, for countless ages, has lain dormant upon the bed rock—ancient creek-beds which have become filled, and covered to a level far above their banks with deposits of drift clay, and basaltic rock (honey-combed bluestone,) the last being the resultant of the emanations from numerous craters—now quiescent—which surround the district. As we are no geologist, we shall use no scientific terms, and do not pretend to be a practical miner; but we shall attempt to commit to paper our observations, made when a shareholder in various of the richest companies on the Sebastopol plateau. We often remained many hours underground, observing the extraction of nuggets and fine gold in such abundance as would have electrified Aladdin. A description of one claim will convey an idea of the other ten or twelve companies, each numbering seventy or 100 shareholders, which originally tenanted this basaltic plateau, running about four miles south of Ballarat. When we arrived in Ballarat, in 1856, these deep leads had not been wrought; but in the flats

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were about 28,000 men, raising fabulous wealth from shafts about 120 to 170 feet in depth, which were called shallow, and easily worked. By-and-bye, these leads, running in a certain course, were traced up to the hill, where the upheaval of basalt commences, and upon which Ballarat proper stands.

The difficulties encountered by these companies may be appreciated when we state that, for four years, the writer, as did many others, paid £2 10s. per week to a man representing his share, $\frac{1}{4}$, in the Albion Company. The bed rock was reached at a depth of 220 feet, through which it was necessary to sink 240 feet, in order to attain the level of the auriferous earth, and then to drive 550 feet through schist, to touch the gutter. In addition to five years' labour, of seventy-two men, these indomitable Highlanders expended £45,000 ere they raised 100 ounces of gold, when the claim was suddenly swamped by a flow of water so strong as to be unconquerable by the pumps and engines, thus necessitating new plant, twenty-two-inch pumps, a sixty horse-power engine, and a delay of six months; the shares receding temporarily from £1900 to £1000. Prior to commencing to sink the shaft, twelve months were occupied in boring fourteen bores in a semi-circle, to explain which, we must point out that these ancient creeks lie between two banks, or reefs of schist, gradually ascending on either side; and between them bores are put down in order to discover the deep ground, or rather the probable course of it—a most tedious process. These deep claims could only be undertaken by men who had saved a few hundreds of pounds, and when that was exhausted they hypothecated half their shares, and many encountered great privations rather than do so. Perhaps two men lived in a tent, one worked his own shift, eight hours daily, and also his mate's, another eight hours, and the mate, perhaps, worked for wages, which kept them in food, &c. The one who wrought eight hours daily one week performed sixteen hours the next week, and so on for years. As erratic are these gutters at a depth of 400 feet, as are the streams of the present date on the surface; and across the drives in these gutters oftentimes have we seen huge trees, sound, and apparently charred but yesterday, although reposing under three layers of basalt. Embedded in solid basalt we remember six frogs were once found, and brought to the surface alive. In the Albion Company the drives must have measured ten miles. The main drives are five or six feet high, and seven wide, with upright props on each side, supporting cap-pieces securely fastened across, then iron tramways are laid; and horses remain well-fed and stabled underground for years; perhaps, conveying the mullock a mile or more. By-and-bye this particular claim employed 300 men, in eight hours' shifts; and to put ninety men down in cages, and simultaneously to bring ninety men up, occupied about two hours. In all deep claims, work was carried on as regularly as by soldiers. If a man came to work five minutes late he was fined half-a-crown, a

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quarter of an hour five shillings, and half an hour, ten shillings. As pilfering nuggets often occurred, a searcher was appointed, and each man coming up, dripping wet as he always was—so much water continually trickles through the rock—entered one shanty, left his clothes therein to be dried and searched, and stark naked he walked into another room, where his dry clothes awaited him. If one man did not like the humiliation, another who did not object could readily be found for good wages.

THE BALLARAT CORNER.—This is, comparatively, an institution of the past. In 1861, the deep leads having begun to yield so richly, then arose the Corner, a sort of Rialto, which was attended from nine a.m. till six p.m., and occasionally till ten p.m., and, literally, thousands, nay, tens of thousands of pounds, changed hands daily. Although Ballarat mining men are, in the other colonies, regarded with aversion, owing to the unscrupulous proceedings of a few hailing therefrom, yet these ought not to be confounded with many brokers or jobbers as conscientious, certainly, as any in England. Not a few persons have suffered by the "bulling and bearing of the market," i.e., artificially raising or depressing the shares; thus killing the goose for the golden egg, as Melbourne men withdrew their capital, and so gradually left the bulls and bears to fraternise, and live upon each other. Of course, as thousands of men were put on to work the claims alluded to, eleven years sufficed to work them out, much to the astonishment, loss, and disgust of the shareholders who bought in at high prices, and who did not sell out in time. Around Ballarat are extensive mining divisions, such as Creswick, Smythesdale, Blackwood, Clunes, and Daylesford, abounding in rich alluvial and quartz, and their prosperity will redound to that of Ballarat, the centre of the wealth and intelligence of the district; yet numbering as energetic spirits as America can boast of; and who, by rail, can now sally forth to test any new discovery; and probably other rich deep leads exist in various directions. Of the deep leads, the most famous is the Golden Point, on which was situated the Cosmopolitan, Kohinoor, Band of Hope, and other celebrated mines.

Mr. Surveyor W. Davidson informs us that the Cosmopolitan Company was a co-operative party of forty men, who, in a space of four years, sunk their shaft to a depth of 345 feet. This was made up of a few feet of surface clay, about 130 feet of solid bluestone, of marly and black clays twelve feet, and of schist, or bed-rock, something over 200 feet. Having bottomed so shallow, as it is termed, that is, struck the schist at a great height above the bed of the gutter—and, consequently, a considerable horizontal distance from it—it became necessary to sink through this schist—which really formed the banks of the creek—to the level of the gutter, and then put in a drive, 1700 feet long, to the golden earth. The gutter, very rich, varied from 120 to 500 feet in width.

The Kohinoor Company, in sinking and driving, nearly resembled

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its immediate neighbour, the Cosmopolitan; but, in the former, the main drive was nearly 2000 feet. The gutter in this claim varied very much in width, being in places 600 feet wide.

The Great Redan Extended Company's shaft was 368 feet deep. Of this depth about 310 feet was composed of four layers of rock, divided from each other by strata of white marly, brown, black, and green clays; and between the second and third layers, and again between the third and fourth rocks, sandy drifts, entailing great difficulties, were met with. The Extended Company was about four years from breaking surface to striking gold. The party at first consisted of eighty men, but it afterwards became a joint stock company. In a few years, it is said, five tons of gold were obtained from the mine. The alluvial earth was, in some places, of great width, and was four to six feet thick.

THE YIELD OF GOLD from companies on the Sebastopol plateau, up to July, 1868, had been 1,068,731 ozs. 18 dwts. 23 grains. The Kohinoor Company, from shafts at 215 and 370 feet, obtained 123,188 ozs.; the Great Redan Extended, from 345 feet depth, 109,572 ozs.; Albion, from 430 feet, 84,325 ozs.; Working Miners, from 400 feet, 39,200 ozs.; Nelson and Wellington, from 385 feet, 61,783 ozs.; and, up to 31st August, 1875, the Prince of Wales Company had obtained 169,371 ozs., from shafts at 387 and 410 feet deep; the Band and Albion Consols, gold of the net value of £2,012,487; and the Hand-in-Band Company £153,814. In 1867 the Band of Hope, in forty-four days, raised £60,000 gold.

In order to exemplify the cost of working one of the Ballarat rich deep leads, now—so far as is known—almost worked out, we will enumerate the principal items of expense incurred by the Prince of Wales Company, Sebastopol; and this we can accurately do, as we happen to have before us the general balance-sheet of the company up to 1869, audited by the writer, who for years was one of the two auditors of the Company, as well as being a shareholder. Up to 31st December, 1869, the gold won had amounted in value to £535,926. The expenditure had been as follows:—Dividends to shareholders, £233,999; wages and salaries, £240,005; Quicksilver, £689; mining timber, £18,340; firewood, £21,500; charcoal, £929; candles, £7680; ironmongery, oil, grease, &c., £13,320; blankets, £526; law costs in defending titles or prosecuting actions against neighbouring companies, £9473; registration and survey of claims, £1600; board and audit fees, £1191; charitable donations, £531; bank interest on overdrafts, £3751.

The quartz reefs around Ballarat, though poor compared with those of Sandhurst and Stawell—yielding about six or eight dwts. per ton—promise, by systematic working, to become of importance.

BALLARAT NUGGETS.—The Welcome Nugget found at Bakery Hill realised £9325; the Lady Hotham, at Canadian Gully, £3000; the Nil Desperandum, £1050. Three men, within three months after

standing and working at Canadian Gully, Ballarat, returned by the *Sarah Sands* with a nugget, valued at £5532; at Dunolly, forty-seven miles from Ballarat, the *Welcome Stranger*—which sold for £9534—was unearthed.

SANDHURST, like Ballarat, from 1851 to 1856, raised a large quantity of gold, but from shallow alluvial ground. If we remember correctly, the escorts often conveyed, fortnightly, to Melbourne, from Ballarat, 40,000 ounces, and from Sandhurst, 50,000, all alluvial gold. Whilst some of the Sandhurst quartz reefs run down almost vertically, others lie in saddles at different intervals of distance, one above another. One leg of a semicircular body of quartz being followed down, perhaps becomes the apex of a similar body below it, and so downwards. When one layer is exhausted another must be sunk for. Sandhurst is the centre of nearly 1000 auriferous quartz reefs, covering an area of 140 square miles. When we visited the locality in 1856 they were not worked to any depth, and some were yielding twenty, thirty, and forty ounces per ton. Gradually these yields diminished, an interregnum ensued, and the Mall was almost abandoned, as no capital was forthcoming to work the claims at a greater depth. At last the tribute system was commenced, whereby the miners leased from the mine-owners (or Crown lessees) the claims, on a tribute of fifteen or twenty per cent. to the lessor, and soon a reaction set in, the Melbourne public was desirous of buying into the claims, and to satisfy the inordinate demand for shares, speculators, or "promoters," took up claims, no matter how distant, upon all the rich lines of reef. As an instance, one "parent" company held 500 yards along the reef; this company, perhaps, consisted of 40,000 shares, issued at £10 or £20 per 1000 by the launchers. These, as the excitement—which, in May, 1871, had arisen—increased; doubled and quadrupled in market value. The happy expedient was then hit upon to cut this (or any other) company up into four other claims, each holding 100 yards along the reef, and each paying fifteen or twenty per cent. to the parent company. Each tribute party then constituted itself a company of 24,000 shares, and issued them to the public at £5 or £10 per 1000. The public, ignorant or thoughtless as to the small amount of ground held, at once bit, and bought up the shares; but all these tribute companies had to sink shafts, elect directors and managers, and to pay calls—the main difficulty. So had the parent company, with exception that they were not compelled to perform any work, in which case they escaped calls; and we have known a parent company to perform no work, pay no calls, and receive dividends; whilst its offspring worked, paid calls, got a little gold—subject to twenty per cent. on the gross yield—and never received any dividends. So this went on for months, of course, but little gold being got by them. The old-established companies were yielding, perhaps, ten ounces to the ton, and exhibiting

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monster cakes of gold in the bank windows every Saturday. By October, 1871, such a mining mania had arisen that £500,000 is said to have been sent to Sandhurst from Melbourne and the adjacent colonies. Wild was the excitement universally prevailing, whilst Hallas' excellent city band nightly animated the gay, festive, and glittering scene; and all the hotel bars were brilliantly illuminated.

This mania can only be likened to the South Sea Bubble scheme. From early morn till two o'clock next morning, trafficking in shares was carried on in the Mall. The blind, the lame, and the halt even, being as frantically excited as any sound man; for a lame beggar, on crutches—who for years we had seen singing in the streets for alms—we then daily saw with a metallic pencil jotting down his transactions. Melbourne men in business used to come up to Sandhurst regularly every Saturday morning, examine their speculations, and, for their convenience, having induced the Government to put on a 10 p.m., train, they then returned to the bosoms of their families, at St. Kilda, by 3 a.m. next day, and in time for church on Sunday morning. But one Saturday night in November, 1871, the Melbournites had departed, and all had retired, fondly imagining that the game would be renewed with increased vitality on the Monday. It came, but the thousands and hundreds of thousands of shares held by some were valueless. All persons were sellers and there were no buyers; and so ended that mining scramble. However, although nearly all those claims have collapsed, many will yet be worked, and Sandhurst stocks just now are amongst the soundest speculations in the colony.

The population of the City of Sandhurst is—with Eaglehawk—about 35,000. The Town Council has much beautified it of late years, and now it boasts of fine roads, public buildings, banks, well-stocked shops, commodious hotels, and public gardens. About 4000 to 6000 ounces of gold is now about the weekly yield; but we believe the reefs, as yet, have been but partially worked, and that great will be the future of Sandhurst.

CASTLEMAINE is seventy-eight miles, by rail, north of Melbourne, the land gradually rising from the coast. Mount Macedon is passed at 1660 feet above sea level; Carlsruhe is 1800 feet, the greatest height attained. Castlemaine is 919 feet, and the country gradually descends to Sandhurst, at 758 feet, and Echuca, on the Murray River, at 320 feet. Castlemaine was, in 1852 and 1853, the centre of the Mount Alexander rich alluvial diggings, and a place of much importance. It is now a well-built, picturesque and healthy town, with about 7000 inhabitants, superior to Sandhurst, inasmuch as there are no mosquitoes. Auriferous quartz reefs abound in the locality, but as yet have not been developed.

CLUNES is 123 miles north-west of Melbourne, twenty-two and three-quarter miles from Ballarat, having a population of 6068. It is the centre of an extensive quartz-bearing country,

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not so rich as Sandhurst or Stawell, yet tens of thousands of tons, averaging six pennyweights to one ounce per ton, have been raised by the Port Phillip and New North Clunes companies. During many years the latter has been most faithfully conducted under Ballarat directors, and has paid regular monthly dividends. The former was initiated in 1856, and has been ably conducted by Mr. R. H. Bland, on behalf of the English shareholders. This company erected extensive batteries, and appliances to crush the stone, which was raised by a co-operative party of miners—the “Clunes Company”—the former holding the lease of the ground—the paddock—and charging, for a long period, a high per centage to the latter, for crushing; and if capitalists in England were aware of the vast field existing throughout this whole continent for the combination of capital and labour, we venture to think the dormant riches buried in the earth would attract their attention.

CRESWICK is $111\frac{1}{4}$ miles by rail, north-west of Melbourne—eleven from Ballarat—and here both alluvial and quartz claims are yielding richly. The *Creswick Advertiser* reports that the total amount of gold obtained in the Springhill mines (all on private property) during the year 1875 was 40,927 ozs. 19 dwts. 11 grs., while the dividends declared and paid, including royalty, amounted to £98,953 14s. 6d.

SMYTHESDALE is 108 miles from Melbourne, and twelve from Ballarat. It is the centre of alluvial claims—once very rich. Respecting the extensive auriferous region, extending hence at least fifty-seven miles further west to Wickliffe, Mr. R. Brough Smyth, in his valuable work on the gold-fields, remarks:—“When we consider the immense area of auriferous country lying in the basin south of Lake Burrumbeet, and north of the Palæozoic Range, which divides the Haddon Leads from those trending southwards, and the vast unexplored tract stretching from Skipton to Wickliffe, connected not unremotely with the former, by indications which are sufficient for the geologist, if not for the miner; and when we endeavour to form conclusions respecting the character of these, and the leads which are known to follow the line of the watercourses trending towards Lake Korangamite, we are lost in astonishment at the possibility of immense wealth in localities yet unopened and unexplored. That they will be opened at no distant date is beyond doubt. The inland basins whether small or large, are guides to exploration, and when well marked are sure guides. For instance, Lake Korangamite receives numerous streams from the north, and is an inland basin, into which several leads must, of necessity, trend, but whether, where they approach the lake, they are auriferous or composed of the *débris* of auriferous rocks, or shallow, or deep, or wide, or narrow, we know not; and yet a few simple tests would be sufficient to satisfy us on all these points. There is, indeed, but little known as to the character of the rocks which bound the lake. It appears that Lake Korangamite, is 346 feet above the level of the

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sea; Lake Wendouree, 1488·02 feet; Lake Burrumbeet, 1286 feet; and Lake Learmonth nearly the same. These are guides to the geologist, and serve to aid his investigations when he seeks to portray on a map the bounding ranges which formed the old drainage areas of the period antecedent to the eruptions of basalt and basaltic lavas; which have, in some places, completely, and in others, partially obliterated them. Having found these he could trace the leads, and by tracing the leads, he would be able to give hints which would set hundreds of willing hands to work, and open out vast tracts of auriferous land."

STAWELL is 175 miles north-west of Melbourne, having a population of 5616. It is the centre of a richly auriferous quartz region; and after many years of stiring labour and vast expense an apparently rich lode has been struck, at a depth of 1700 feet, by the Magdala Company. The following, by Mr. John Naylor, engineer, of Stawell, conveys an idea of the character of the quartz reefs, which will not be developed for many years:—"Referring to the nature of reefs at Stawell, there are two descriptions of reefs here as you remark, namely, flat and vertical reefs. The latter form in blocks, having a northerly dip; they are not very regular, as in some cases they pinch out for two or three hundred feet and then make again. The flat reefs here are the most reliable for producing gold. On the other side I send you a hand sketch of how the flat reefs and vertical reefs are connected; you will see that the flat reefs are running in a most peculiar position; as when they come against the vertical reef, neither of them are disturbed, but run down together. We are now opening out a flat reef in the Extended Cross Reef Company at a depth of 870 feet; the reef is from three to four feet in thickness carrying gold. A trial crushing about six months ago from seventy tons yielded over 2 ozs. 3 dwts. per ton, and the quartz we are now raising seems twice as rich."

ST. ARNAUD is 149 miles north-west of Melbourne, the centre of a rich quartz-reefing district, as well as of a fertile district, recently located upon by a large number of free selectors. This is likely to become one of the most important towns in the colony.

HORSHAM is 222 miles west north-west of Melbourne, the centre of a tract of country largely held by graziers and free selectors; and this is likely also to become one of the most important towns in the colony.

WOOD'S POINT is the point of a spur of the Dividing Range, on the Goulburn River, 120 miles north-east of Melbourne. The celebrated Morning Star Hill—from which, in 1863-4, such fabulous wealth was obtained from the quartz—overlooks the town. It was discovered by the miners gradually working up from Jamieson. They dug out the bed of the river to a depth of, perhaps, sixteen or twenty feet, washing up the gravel, then the sides of the

mountains, shelving down to the creeks, by diverting the watercourse, and washing down the surface soil with a hose, perhaps 100 feet upwards. Following the sinuosities of the river, they came accidentally one day upon an outcrop of glittering quartz, on the side of the hill, in a dyke of granite, between two slate walls, about 100 yards wide at the surface, and widening downwards; and, subsequently, two other horizontal and almost parallel layers of auriferous quartz, undulating in their course, sixty or seventy feet apart, were discovered one above the other; each from two to twelve feet thick, between which are layers of solid grey granite, decomposed granite, gravel, &c. "The direction of this dyke is about north, 55° west. The general direction or strike of the sandstones and slates of the district is north 45° west; their dip, as seen at the eastern wall of the dyke, is about 80° to the west; the general dip of the beds being at very high angles—from 75° to vertical." The quartz layers, as they approach the walls of the dyke, become attenuated and split up, but pass obliquely down into the mass of slate on either side of the dyke. Again quoting from Mr. R. B. Smyth's work; the following—from the report, in 1864, of Mr. Aplin, the director of the Geological Survey of Victoria—lucidly explains these singular layers, peculiar to this part of the colony: "Crossing this dyke at different levels, some sixty or seventy feet apart, are three horizontal bands or veins of quartz, each of which is at present being worked by different parties, whose claims are all registered, as being on the same reef—the 'Morning Star.' This may hereafter give rise to some difficulty in the application of the mining by-laws, should they ever require to be appealed to in case of dispute. . . . They vary in thickness in different parts of the workings, from one or two feet to as much as twelve, but in the latter case are split up into a mass of thin ramifying and reticulating veins, enclosing between and amongst them portions of the syenitic mass, through which they have penetrated; the whole thickness, however, is sent to the mill to be crushed. They abound in crystals of quartz, many of them very perfect in form, and beautifully grouped together. Iron pyrites are also abundant, and, in Drysdale and Co.'s claim, sulphide of antimony has been met with. In tracing the extension of the veins, they are working into the adjacent schist rocks."

In 1864 Messrs. C. and D. McDougall held an unusually rich claim on the side of, and tunnelled into the said hill; beneath which, on the banks of the river, they had a small machine of eight stamps, fed from above, and driven by a water-wheel thirty feet in diameter. We saw one week's crushing cleaned up and retorted, which gave a cake of 1272 ounces, the next week 1200 ounces; and in a few weeks £50,000 was realised. The regular yields of this and other claims, such as Scott and Hurley's, Drysdale's, McDermott's, and the Hope, entirely throwing into the shade all the boasted wealth of the

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far-famed Band of Hope, Great Redan, and other claims of Ballarat. Never was the ingenuity of man more highly exercised than was that of the owners of these claims, in conveying stores and machinery up from the low country, as well as water, along and around mountains, through "flumes," or boxes, erected upon posts, or fixed into the mountain sides; that of one company being above another, to a height of 300 feet, perhaps along a course twenty miles, from the springs. The machinery was cast in pieces not exceeding 250 lbs., taken by waggon to Jamieson, and then was packed on horses' backs, costing sixpence to a shilling per lb. freight; and so contiguous to each other are these precipitous mountains—3000 to 5000 feet above the sea level—that, for 100 or more miles, they may be crossed up and down, with no wider level space, or creek (blind or otherwise) than 200 yards between each mountain.

There are seven mining districts, viz., Ballarat, Beechworth, Castlemaine, Sandhurst, Maryborough, Ararat, and Gipps Land, with wardens and surveyors to each, but space does not permit us further to notice them; suffice it to say that the area of Victoria known to be auriferous, covers one-third of the colony.

QUARTZ CRUSHING.—In Melbourne a ten-head battery and engine costs about £2000; the wages of a capable man to erect it, and conduct the operations are from £4 to £6 per week; whilst ordinary miners are paid £2 5s. to £3 weekly. The cost of crushing varies, according to difficulties encountered, and to the hard or soft character of the country; from three shillings to thirty shillings per ton. A miner's right costs five shillings per annum, and must be renewed yearly at the expiration of the last. Should this be neglected for one day, a claim holder has no *locus standi* in a court of law, should he be called upon to defend his rights to occupy crown lands for mining purposes.

GOLD LEASES.—Quartz leases are issued, not exceeding in area, thirty acres. They must be pegged off at least 100 yards along the reef, but must not exceed 600 yards; the width being not less than fifty, nor more than 200 yards. If the application be for less than ten acres, a deposit must be made with the warden of the district, of £2; and if from ten to thirty acres, of £5 towards survey fees; the annual rental being ten shillings per acre.

MINERAL LEASES are granted up to thirty years. For lands containing coal, the area must not exceed 640 acres; iron, 100 acres; other minerals, fifty acres; rental, threepence to two shillings per acre per annum.

WATER RIGHT LICENSES are issued for fifteen years, authorising the construction of dams and the cutting of races. Four acres are allowed for every mile of race.

A coal-field, said to be payable, is being opened up by a company at Western Port, but, although they have sold in Melbourne 3000 tons of superior coal, their limited capital has been unequal to developing the mine. The purest antimony ore is abundantly raised

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and shipped by the Costerfield Company; it is disseminated through the quartz, which is crushed like auriferous quartz. We have visited every mining district in the colony, and have been familiar with the results achieved by almost every rich quartz or alluvial claim. We are convinced of the boundless wealth yet to be developed from the reefs covering so large an extent of country; and which may for ages keep Victoria—insignificant in size though she be, compared to her neighbours—in the foremost rank; for the whole colony will yet be open to the miner, either by a Mining upon Private Property Bill, or by landlords universally agreeing, for a small per centage, to allow their surface, to a small extent, to be broken. We think by this concession only will their lands, houses, cattle, and sheep remain as valuable as they now are. The regular annual exportation of gold, although diminishing from various causes, shows Victoria in this metal to be incomparably richer than any other colony.

BUSINESS LICENSES.—An area of a quarter acre, sixty-six by 165 feet, can be taken possession of on the alligned streets on any gold-field, for erection of a store, the annual license fee being £5.

RESIDENCE AREAS.—In like manner, in virtue of an annual miner's right of five shillings, a residence area of a quarter acre can be held on any gold-field; and should a person erect a valuable building thereon, the government surveyor, if ever the ground be sold, prior to the sale, values the improvements. This amount is added to the upset price, and must be paid in cash by the purchaser to the owner. Thus did Ballarat become a beautiful town before much of it was sold.

CHAPTER XV.

FROM PORT PHILLIP HEADS TO CAPE HOWE.

SAILING easterly through Bass's Straits on 24th August—two days out from Adelaide—we were off Port Phillip Heads.

CAPE OTWAY LIGHT, according to the Geodetic survey of Victoria, is in latitude, south, $38^{\circ} 51' 32''$, and longitude, east, $143^{\circ} 30' 53''$. This is sixty miles south-west of Queenscliff, and is the northern point of the western entrance to Bass's Straits. The cliff is 250 feet high, and upon it is a white circular lighthouse fifty-two feet high. The light revolves once every three minutes, with a bright flash once in every minute, and may be seen twenty-four miles. Here is a light station.

QUEENSCLIFF is in latitude, south, $38^{\circ} 16'$, and longitude, east, $144^{\circ} 40'$.

HIGH LIGHT, on Shortland's Bluff, is one light fixed, white; seen seventeen miles.

LOW LIGHT, on Shortland's Bluff, is another light, a fixed red and white light.

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POINT LONSDALE is west of the entrance to Port Phillip, and hereon is a temporary fixed red and green light to guide vessels clear of the Lightning and Lonsdale Rocks.

POINT NEPEAN is in latitude, south, $38^{\circ} 16' 39''$, and longitude, east, $144^{\circ} 35' 5''$, east of the entrance to Port Phillip.

WEST CHANNEL LIGHTSHIP, on north end of west channel, two lights fixed; seen ten miles.

SCHNAPPER POINT.—Hereon is a fixed light; seen four miles.

GELLIBRAND'S POINT LIGHTSHIP is off Gellibrand's Point. One light, flashing; seen twelve miles.

GEELONG SHIP CHANNEL LIGHTSHIP, at entrance to Corio Bay, has one fixed light; seen seven miles.

GEELONG HARBOUR.—A red light from lanthorn, placed on first red dolphin inshore of the lightship.

WILLIAMSTOWN LIGHT is in latitude, south, $37^{\circ} 52' 7''$, and longitude, east, $144^{\circ} 54' 55''$.

MELBOURNE OBSERVATORY is in latitude, south, $37^{\circ} 49' 53''$, and longitude, east, $144^{\circ} 58' 42''$.

CAPE SCHANK is south-east of Point Nepean, in latitude, south, $38^{\circ} 30'$, and longitude, east, $144^{\circ} 54'$. Here is one revolving light—on a red tower—seen twenty-four miles.

This is the locality from which Melbourne draws the small supply of fish, which she is privileged to receive, by the exertions of forty-four men instead of 444, who, we think, could not catch enough fish for the community, were it educated to eat fish, by being able to purchase it at one penny per pound, as is the case in other countries. It is the staple food of a large portion of the inhabitants of the globe; yet is known to but few in Australia—we mean a daily meal of fish—the present cost is sevenpence or one shilling per pound, causing it to be a rarity in which labouring men do not care to indulge. On one side of us is Victoria, a colony of 813,000 souls, and in the immediate vicinity of the bay, all round it, there reside not less than 230,000 persons, of whom we do not believe that 10,000 ever taste fresh fish, although £121,000 worth of fish, chiefly ling, was imported in 1874.

In this very track, within two or three hours' delivery by a steamer to the said population, the sea, at all seasons, swarms with some sort of good fish; and yet only forty-four men have the energy to proceed to sea to catch them. Any one who visits the fish market will observe, perhaps, fifty or one hundred dealers bidding, or not bidding, against each other; so, under that system, others than fishermen reap the benefit of such high retail rates. As rich colonists do not care to speculate, and as most others have their money employed, it appears to us that this industry might be lucratively carried on if an English or American company, with not less than £50,000 capital, sent out steamers, boats, and men; or, if European labour be too costly, Chinese, who are most skilful at

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netting, could be readily employed. The company could supply their own shops in every town of the colony with fish caught in their own boats, by their own servants, and speedily taken to town in their own small steamers which might also tow the boats out 100 miles, or any distance, and thus only would they be independent of the combination, or "knocks out," of the dealers. Then, perhaps, will the community generally have a taste of fish, and the stamina of the whole population would be improved by alternating a phosphoric with a flesh diet.

On the coast is every facility for initiating extensive fish-curing establishments, and close to our doors—in the East Indian Archipelago—is an unlimited market. The *Argus* noted recently: "We have no doubt that on the very day on which excellent fresh fish was sold at Prince's-bridge for '72 of a penny per pound, any one wanting to place a good dish of fried whiting before his friends would have had to pay at the rate of one shilling a pound for the fish, or that if he had wished on the following morning to indulge in the luxury of a sole or flounder for breakfast, he would have had to pay one shilling or one shilling and sixpence for a specimen that he could have eaten without any conscious dulling of his appetite. It is a standing reproach to the enterprise of our citizens that fish should be so plentiful in our waters and so scarce on shore."

PHILLIP ISLAND, a beautiful and fertile island, is at the entrance of Western Port. It had a population in 1871 of 547 persons.

CAPE WOOLAMAI is the south-east point of Phillip Island, in latitude, south, 38° 54', and longitude, east, 145° 22'. Mr. John Cleland owns an extensive estate hereabouts, after which is named Woolamai, the winner of the Melbourne Cup, 1875.

FRENCH ISLAND is in Western Port, north of Phillip Island, the greater part being swamps.

CAPE PATERSON is in latitude, south, 38° 41', and longitude, east, 145° 37'.

CAPE LIPTRAP is in latitude, south, 38° 55', and longitude, east, 145° 56'.

WARRATAH BAY lies between Cape Liptrap and Wilson's Promontory, and is a pretty little nook and safe harbour of refuge, not generally known. It is about eighty miles from Port Phillip Heads, and the bay, nine miles across at its entrance, takes a horse-shoe shape. "Captain Stalker lately, coming from Port Albert, sought shelter from a south-west gale, immediately north and inside of the Bird Rocks in Warratah Bay, with good anchorage close in from two and a half to three fathoms, and with fresh water on the beach."

WILSON'S PROMONTORY is in latitude, south, 39° 8', and longitude, east, 146° 25' 37". Hereon is one light, fixed, and white—a first-class catoptric—342 feet above sea level, and may be seen twenty-four miles, allowing ten feet for the height of the eye. The tower is

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circular and painted white. This is the extreme south-east corner of Australia, and rounding the cape we proceed north-easterly.

CORNER INLET is an indentation in the coast north of Wilson's Promontory; and hereabouts are a number of small islands uninhabited.

PORT ALBERT is north-east of Wilson's Promontory, 173 miles south-east of Melbourne. On Latrobe Island is a lighthouse—one light, fixed, white and flashing, seen twenty-four miles, visible to seaward from east by north round southerly to south-west; shows a bright flash every three minutes.

GIPPS LAND was discovered in 1840 by Angus McMillan, of Bushy Park, as he assured us when we met him in 1864, cutting a track for the Government from Matlock, 5000 feet above the sea, to Crooked River, across mountains and valleys covered with the densest jungle; and who in conjunction with Mr. Tyers in 1844, whilst encountering the hostility of the blacks, discovered numerous lakes, rivers, and mountains, as well as extensive plains of fertile territory, now about to be utilised.

SALE, the principal town in the South Gipps Land District, can be reached from Port Albert, to which there is regular weekly steam communication from Melbourne. It is 145 miles east south-east from Melbourne, a daily coach performs the journey in twenty-four hours. The population of the town was about 2105; of the district, about 18,251. The Gipps Land *Mercury* and *Times* are here published, and here are the district head quarters of the police. Steamers drawing only a few feet water come to Latrobe wharf, within three miles of Sale, by way of the lakes. A railway is in course of construction from Melbourne to Sale, which will open up a magnificent and undeveloped territory.

GIPPS LAND DISTRICT.—This comprises the south-eastern portion of the colony, in extent about one-fifth. Much of it is mountainous and rugged; but a very large extent is unsurpassed for agricultural or pastoral purposes.

SOUTH GIPPS LAND extends from the sea as far north as Merriman's Creek, when it is termed North Gipps Land. The mountains and ranges abound in auriferous quartz reefs, as yet almost untouched. Mr. Angus McMillan informed us that he was confident these Wood's Point reefs, some of which were and are very rich, will be found to continue auriferous all the way to the Dargo, over 100 miles, and into New South Wales. At other portions of the track, along the Dividing Range, auriferous quartz is now being raised, yielding richly; for instance, at Aberfeldy, on the road from Wood's Point to Sale, over Mount Useful. This locality is a portion of the main Dividing Range, running from New South Wales into Victoria, and is called the Australian Alps. The mountains vary in height from 1000 to 8000 feet, and some of the highest are constantly covered with snow. How few, even in Victoria, are aware

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that at a distance of 120 miles from Melbourne such a charming climate prevails, and which can be reached by Cobb's coach, daily, at a cost of only £3. From this township of Wood's Point, 2200 feet above sea level, the range rises at Matlock in a course of three miles, 2800 feet. Some day this will be regarded as the sanatorium of the colonies. Shut in by lofty ranges—the summits of which you can reach in half-an-hour's walk, and then travel along on level or undulating ground, enjoying diversified scenery—neither dust nor hot winds are experienced. From November to March the climate is most enjoyable, the rest of the year snow and rain fall in abundance, oftentimes causing floods in the lower country. This is the home of the duck-billed platypus, the lyre bird, kangaroo, and other game. The rivers abound in fish, and shooting and angling can be indulged in by sportsmen without travelling any distance.

NINETY-MILE BEACH.—This is a sandy beach, extending north-easterly for ninety miles without an inlet, excepting the entrance to the lakes. Between Shallow Inlet and the Red Bluff is locally known by the above name.

GIPPS LAND LAKES.—Lakes Victoria, Wellington, Reeve, and King have been elsewhere noticed. Lake King is at the entrance, which is in latitude, south, $37^{\circ} 53'$, and longitude, east, $148^{\circ} 2'$.

POINT RICARDO is east of the lakes' entrance, and here the Snowy River debouches.

CAPE EVERARD, OR POINT HICKS, is in latitude, south, $37^{\circ} 49'$, and longitude, east, $149^{\circ} 17'$.

GABO ISLAND is five miles south-west of Cape Howe. The lighthouse is in latitude, south, $37^{\circ} 34' 15''$, and longitude, east, $149^{\circ} 55' 10''$, and is on the south-east extreme of the island. It is a fixed white light, visible twenty miles in clear weather. It is elevated 179 feet.

CHAPTER XVI.

BASS'S STRAITS—KING'S ISLAND; WRECKS THEREON—

REPORT OF BOARD—CURRENTS IN BASS'S STRAITS.

BASS'S STRAITS are from 120 to 200 miles wide, and separate Tasmania from Australia. The Australian "Nautical Almanac" remarks:—"In approaching the straits from the westward, vessels should endeavour, if possible, to make the land in the neighbourhood of Cape Otway, more particularly as the lighthouse on that cape is a conspicuous object, and that part of the coast of New Holland is free from danger. The western entrance of Bass's Straits, formed by the islands off the north-west point of Tasmania and Cape Otway, is thirty-six leagues wide. King's Island, lying nearly midway,

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occupies about twelve leagues of this space. To the "Australian Directory" (pages 339 to 346,) first volume, published for the Admiralty, we refer the reader." The fifty-five islands or groups on the north coast of Tasmania, and singly along the east and south, cover 1,206,500 acres, and belong to Tasmania.

Respecting the islands in Bass's Straits, Mr. R. Brough Smyth remarks: "That the great cordillera extending southwards from Cape York, has a culminating point at Forest Hill, and it runs thence westerly and south-westerly through Victoria to St. Clair, where it diverges. It is traceable thence, southward, for the greater distance, by a well-marked watershed, to Wilson's Promontory; and onwards, under the sea, by a chain of islands to Tasmania." Another writer says: "A line of peaked islands (granite) runs from the north-west coast, and another from the north-east coast, direct to Victoria, leaving an enormous inland sea between."

These islands are inhabited by 242 persons, mostly half-castes, who hunt seals and catch mutton birds, which, in whaleboats, they take to Launceston to sell. A schoolmaster is employed by the Tasmanian Government, and he proceeds in a whaleboat from island to island to instruct the inhabitants.

At the east end of the straits are Flinders' Island, containing 513,000 acres; Cape Barren Island, 110,000 acres; Clarke Island, 20,000 acres. The Kent's Group, Sisters, Hogan Group, and Curtis, lie between Flinders' Island and Wilson's Promontory. At the west end are Robbin's Island, 24,000 acres, and others.

KING'S ISLAND LIGHTHOUSE is on Cape Wickham, the northern point of King's Island, which is forty miles in length. According to the Australian "Nautical Almanac," the position of the light is in latitude, south, $39^{\circ} 35' 20''$, and longitude, east, $143^{\circ} 57' 10''$. It is one white light, fixed, seen twenty-four miles, visible to seaward from south south-west half-west round northerly to east south-east; tower white; 145 feet high. The *British Admiral*, and, more recently, the *Blencathra*, have been here wrecked. We subjoin the recommendations of the court of inquiry as to the necessity of another light on the island.

A SECOND LIGHTHOUSE is at once to be erected on King's Island, near Netherby Point, on a hill near the south side of Currie Harbour; the Governments of Victoria and Tasmania having agreed jointly to defray the cost of construction.

WRECK OF THE "BLENCATHRA."—"FIRST DAY'S EVIDENCE.—Captain Nicholas, of the wrecked barque *Blencathra*, said he thought a second light was highly necessary on the western side of King's Island. It should be on a prominent part, with a flash say every four or five minutes. Had there been a second light, his vessel would not have been lost. He did not think it would induce masters to make use of the passage between King's Island and Tasmania in preference to making the Australian mainland

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first. He was of opinion that the present light, from its position, led people astray. He thought Point Netherby, would be the best place for the second light, and did not think the light would be likely to be mistaken either for the Cape Otway light or the one at Cape Wickham. He should like to see the second light a dim, fixed one, with a very strong flash.

"Captain McMeekan, of the firm of McMeekan, Blackwood and Co., said that nothing would induce him to approach the dangerous shore of King's Island if he could avoid it, but as so many vessels had been lost in that bight, he thought a warning light should be placed either at Fitzmaurice Head or Point Netherby. He recommended that a chart should be published by the Admiralty, showing the dangers of the island, and that it should be the duty of the Customs' officer of every port in England, on a vessel leaving for Australia, to warn masters to beware of King's Island."

REPORT OF BOARD.—"If the light is erected, the board would recommend that it should be a first-class dioptric light, showing five flashes and eclipses alternately in a minute. Such a light would differ entirely from those now exhibited on Capes Wickham, Otway, and Schank.

"A light on Cape Nelson, or some prominent cape on the Australian coast to the westward of Cape Otway, is urged, and is also of the utmost importance.

"2. That the sailing directions for approaching Bass's Straits and King's Island from the westward be at once revised and submitted for publication in England; in which shipmasters, especially those of new iron ships, should be warned of the dangers of King's Island; and that they should be specially warned to make the mainland of Australia—to the westward of Cape Otway—their landfall under every circumstance of weather; it being free from outlying dangers, with regular soundings along the whole coast.

"3. That in iron ships, especially new ones, the masters should be cautioned on the absolute necessity of taking every opportunity of verifying and correcting their compasses during the voyage; more particularly before and after hauling to the north towards the Australian coast.

"4. That charts for the neighbourhood of Bass's Straits should have a current arrow, with notes of its probable set and force after prevailing winds, with other warning notes to guide and caution shipmasters.

"EDWD. K. BARNARD, Captain, R.N.,
Master Warden, Marine Board, Hobart Town, Tasmania.

"CHARLES B. PAYNE, Commander, R.N.,
Chief Harbour Master, Victoria.

"H. J. STANLEY, Staff Commander, R.N.,
Admiralty Surveyor."

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The *Age* publishes the following:—The loss of the *Blencathra* makes a total of wrecks on King's Island of nineteen vessels, of which the following are the particulars:—

Name of Ship.	Year Wrecked.	Number of Lives Lost.
Neva	1830	300
Isabella	1840	—
Cataraqui	1843	414
Rebecca (subsequently got off) ..	1843	1
Brahmin	1854	—
Maypole	1855	—
Arrow	1855	1
Waterwitch	1866	0
Netherby	1866	0
Europa	1867	0
Armagh	1868	7
Loch Leven	1871	1
Mary Ann	1871	0
Ocean Bride	1871	0
Elizabeth	1871	0
Whistler	1871	0
Martha Lavinia	1871	0
British Admiral	1874	79
Blencathra	1875	0

Total, nineteen vessels and 803 lives.

CURRENTS IN BASS'S STRAITS.—The *British Admiral* was driven fifty miles out of her course by a south-west current, and was subsequently lost at King's Island. The Navigation Board do not blame the master of the *Blencathra* for the last shipwreck at King's Island, but affirm that his vessel was carried away forty miles by a current setting to the southward and the eastward. This agrees entirely with the new sailing directions framed by Captain Stanley, in which he remarks:—"It may not be exaggerating to say that a current of a force of three knots sets into Bass's Straits. In October, November, and December, a current may be expected to the eastward. In January, February, March, a current may be looked for from the eastward, but as these currents do not appear to be at any time continuous, they cannot be allowed for, as a matter of course."

The *Age* remarks:—"A light at Point Netherby would have prevented a number of wrecks and saved lives. There is this difference between the *Netherby*, the *British Admiral*, and the *Blencathra*, that while the two first-mentioned did not see the light at Cape Wickham, on the north-western end of King's Island, the commander of the latter did; but there is this similarity, that they were all out of their reckoning, and Captain Nicholas and his officers were each of

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the opinion that the light they saw was that of Cape Otway. The light at Cape Otway is a revolving one, while that at Cape Wickham is fixed; but those in charge of the *Blencathra* were deceived by the swell of the sea into believing that it was a revolving light, especially as they were under the firm impression that they were in the neighbourhood of Cape Otway, and not near King's Island."

PROGRESS OF VICTORIAN BREEDERS OF STOCK.—We cannot take leave of Victoria without noticing the great and costly efforts made by the Honourable Neil Black, Messrs. Robertson Brothers, and other breeders of stock, to improve their herds. Several sales of blood animals have lately been held, and as to the profitable nature of cattle breeding, the recent sale of Messrs. Robertson's Herefords and Short-horns, at Colac, abundantly testifies. Although the weather was most inclement seven hundred visitors—eager buyers—from every part of this and all the adjacent colonies, assembled at Colac, forty-six miles from Geelong, and the following are some of the prices realised:—Mr. Gardiner, of Heidelberg, purchased Duke of Alsie for 800 guineas, also, the 17th Duke of Derrimut, 850 guineas; Messrs. Brisbane, of Berwick, 3rd Earl of Derrimut, 925 guineas; Mr. Gardiner, Roan Duchess, 2200 guineas, also, Matilda 9th, 1050 guineas, and Countess of Brunswick, 1200 guineas; W. J. Clarke, Sunbury, 4th Earl of Derrimut, 700 guineas. Many youngsters ranged from £150 to £400. In all 330 animals were sold by Messrs. Gibson and Co., and realised £30,700.

As to the breeding of racehorses, great spirit is evinced by the breeders importing, utterly regardless of cost, the most valuable stock, and the number of racehorses coming forward is yearly increasing. Doubtless the really magnificent race meetings for such stakes as £2000 or £3000 highly encourage importers; and the Flemington Racecourse presented last Cup day a sight we think unequalled on a similar occasion in any other colony. Here has lately been erected, under the supervision of the energetic secretary, Mr. R. C. Bagot, a substantial grand stand, of large and elegant proportions, costing £10,000. Before it, is a well-kept lawn, upon which a galaxy of elegant women in resplendent dresses are wont to disport themselves on eventful days. The course is an extensive flat, every inch of which can be seen from the stand as well as from the hill in rear of it; and on the last Cup day no less than 70,000 persons assembled—the ladies being unusually richly attired.

OVERLAND ROUTE, through America, by steamers over 3000 tons. Passengers from Melbourne are now (Jannary, 1876) booked through to Liverpool, *via* Sydney, Port Chalmers, Auckland, Kandavu, Honolulu, and are allowed six months in the States. Passengers booked in Australia or New Zealand, are allowed twenty per cent. on the return voyage. The through fares from Melbourne are—1st class, £80; 2nd class, £70 10s.; 3rd class, £39 10s.; for transit only.

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CHAPTER I.

DISCOVERY—LAUNCESTON TO HOBART TOWN.

THIS beautiful island is situated south of Victoria, between latitude south, $40^{\circ} 44'$ and $43^{\circ} 39'$, and longitude, east, $144^{\circ} 38'$ and $148^{\circ} 24'$. The greatest length from east to west, near the 41° , is 200 miles. The breadth from north to south, near the 147th meridian, is 185 miles, and contains 24,330 square miles—the islands 1885 square miles—in all 26,215 square miles, or 16,777,600 acres.

It was, in 1642, discovered by Abel Jansen Tasman, who gave it the name of Van Diemen's Land, after the governor of Java, by whom he had been sent out with two small vessels to ascertain the extent of the great south land, New Holland. He rounded the south cape, and on 1st December, landed at Cape Frederick Henry (the name of the father of our William III.) and took possession of the country, supposing it to be the most southern point of New Holland.

In 1772 Captain Marion, a French commander, landed and had a fight with the natives. In 1773, Captain Furneaux got separated from his commander (Cook,) and entered Adventure Bay, reporting that there was only a deep bay between New Holland and Tasmania.

In 1777, Captain Cook landed at Adventure Bay and interviewed the natives; and Captain Blyth, of the *Bounty*, landed there in 1788.

In 1792, Admiral D'Entrecasteaux, searching for La Perouse, sailed up the Huon and Derwent, and Captain Hayes followed in 1794.

In 1798, Surgeon Bass, in a boat eight feet long, crept along the shore, and noticed the swell of Western Port. This induced him, subsequently, in company with Lieutenant Flinders, to pass through Bass's Straits and to sail round the island, and the account he gave of the magnificent Derwent River caused the colonisation of the island five years after.

In 1801, Captain Baudin, sent out by Napoleon on a voyage of discovery, accompanied by twenty-three scientific men, spent some time there, and was pleased with the friendliness of the natives.

In 1803, Lieutenant Bowen, with a detachment of marines and a party of convicts, was sent from Sydney to forestall the supposed intentions of Napoleon to found a French settlement on the island. He landed at Restdown (Risdon,) on the Derwent.

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In 1804, as elsewhere noticed, Captain Collins removed the party from Port Phillip to the Derwent, and thus established the convict settlement at Hobart Town.

In 1806, another location was formed at Launceston under another commandant, and in 1813 Colonel Davey became the Lieutenant-Governor, and Hobart Town the capital of the colony.

In 1824, Van Diemen's Land was made an independent colony, but it continued to receive periodically an accession to its convict population until the cessation of transportation in 1853.

LAUNCESTON.—The northern port is in latitude, south, $41^{\circ} 30'$, and longitude, east, $147^{\circ} 14'$. It is situated on the beautiful River Tamar, forty miles from the mouth, and is 267 miles from Melbourne. A bi-weekly steamer performs the voyage across Bass's Straits in about twenty-four hours. Launceston is 120 miles from the southern port, Hobart Town, between which is an excellent coach road; and is a very healthy town, sheltered by hills, upon which are many pretty villas, which, small though the elevation be, are out of the influence of the occasional fogs, which medical men pronounce to be healthy, if not agreeable.

CLIMATE.—This island is the favourite resort of Victorians in the spring, summer, and autumn. It is one of the finest climates in the world, and free from hot winds of any consequence. It seems incredible that so temperate a climate can exist so near to Australia. All European fruits and vegetables attain to greater perfection than in England, and, being of slower growth, are finer flavoured than those of Victoria.

COUNTRY SCENERY.—The shady green lanes and fields, divided by hedges of black and white thorn and sweet briar, the farm yards surrounded by brick walls, in which are stalled cattle, the pig-styes, manure heaps, the fowls, ducks, geese, and turkeys—perhaps being fed by a motherly old dame—all recall country scenery of the antipodes. In the spring, at early morn, the atmosphere is perfumed from the blossoming of the thorn hedges, which line every romantic lane; and from the jonquils, polyanthi, buttercups, and daisies.

The town of Launceston, which has a population of about 12,000, has a most Englishified appearance, and there is an absence of that excitement which pervades Victorian cities. The inhabitants are happy, contented, and live to a good old age—eighty, ninety, and a hundred years. They are fond of fishing, shooting, and hunting. A large field—sometimes a hundred—follows the Nile Hunt, and many are splendidly mounted; all in a green uniform, after the style of Robin Hood and Little John. Respecting the salubrity of the climate, Mr. Sydney Smith says:—"Its hilly character, its insularity, and its greater proximity to the south pole, have given it a climate much resembling the south of England." There is a clearness and elasticity in the air unknown to the British Isles.

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A railway is nearly completed from Launceston to Hobart Town; but at present the journey by coach occupies twelve hours. The coaches are of the good old style, of the exact pattern of the Taglioni and mail coaches which used to leave the White Horse Cellar, Piccadilly, every night at eight o'clock, before the extension of railways. The coach wheels are low; with a double box seat and double back seat, and the inside holds four. The coachman—native born—the very counterpart of Mr. Weller, dons very long and wide capes, and he stylishly cracks a long tapering whip, very different to the American style; and for any American instruction he professes the utmost contempt—contrary to our opinion. The guard is attired in a scarlet coat, and blows a horn through every town he passes, announcing the arrival of the royal mail. As in England, coachman and guard expect a gratuity at the end of the journey; and take care broadly to hint the idea; very unlike American or English whips in Victoria. On descending a hill a Victorian is highly amused to see the guard, as of days of yore, apply a drag to the wheel.

One remarkable fact strikes all visitors on landing in Tasmania—the ruddy countenances of the native-born youth—the cheeks of the handsome girls possessing a lovely bloom, ascribable to the bracing character of the climate; but so little inducement is there for energetic young men to remain, that the majority betake themselves to Victoria, Queensland, or New Zealand; thus few eligible youths are present to gain the affections of the fair sex, many of whom have considerable property in their own right. And it is not to be wondered at that some Victorians have been willing and able to select their spouses from the “tight little island.”

The soil is of surprising fertility, and sheep-farming, as well as agriculture, are largely carried on; nevertheless fat oxen and sheep are weekly imported. There are many wealthy settlers owning large possessions, and the mortgagees of much property in Victoria. The wealthy class must be numerous, as in former times any man arriving with money, could, according to his capital, obtain a grant of land, and the labour of any number of convicts; he merely fed and clothed them, giving them tobacco at his will.

Monthly, or oftener sometimes, a vessel, with 400 convicts, used to arrive. If a settler, after engaging fifty, found that twenty displeased him, he forthwith sent them to the nearest police station—at intervals all along the road—and thence they were sent back to the depôt at Hobart Town; whilst he could, on arrival of the next vessel, obtain twenty in their place. Many expirees—some, doubtless, having been transported for venial crimes—have attained to opulence; and life and property is quite as safe as in any part of Australia; the rising generation eschewing the predilections of their forefathers. The cessation of transportation involved a diminution of cash expenditure in the colony by the British Government of £365,000 per annum. For some time this was seriously felt by the colonists, in their noble

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resolve to shake off the stigma pertaining to the origin of the settlement, and in which they have succeeded.

We visited Tasmania at the height of the gold fever in Victoria, early in 1853, when Victoria depended upon Tasmania for vegetables, fruit, hay, and horses; the exportation of which caused not a little excitement in Launceston and Hobart Town. We also went by coach from Launceston to Hobart Town when rival coaches raced all the way. Then the coaches were gaily painted, the horses valuable, upstanding and sleek; and performed the 120 miles in ten hours. Now, few of the horses are worth five to ten pounds each, but Mr. Page owns some hundreds, and keeps excellent time, travelling at the rate of ten miles per hour. The journey on the outside on a fine day is delightful.

Along the road from Launceston to Hobart Town are excellent inns, and the villages and townships, surrounded by rich agricultural districts, look thriving. We admired the old English and Scottish names of the towns through which we passed. At eleven miles distance from Launceston we passed Perth; at thirty, Cleveland; at forty-one, Campbelltown; at forty-eight, Ross; at fifty-nine, Tunbridge; at seventy-seven, Oatlands—which is 1300 feet above the level of the sea—and at a hotel here we were shown a bright copper warming-pan, having a silver shield let into the handle, narrating the fact that this article warmed the bed of Prince Alfred when on a visit to the island—on his tour in the *Galatea*; and, of course, it will be handed down as a heirloom in the family. Verily a large consignment of copper warmingpans and kettles must have been made to this country, as the articles seem to be in general use. Having been ascending all the way from Launceston, we now descend towards Hobart Town, from which we are distant forty-four miles. At eighty-one miles and a half from Launceston we pass Jericho; at eighty-eight, Melton Mowbray; at ninety-two, Green Ponds or Kempton; at 103½, Brighton; at 109, Bridgewater; and in twelve miles Hobart Town is reached—in all 121 miles from Launceston.

HOBART TOWN, in latitude, south, 42° 38' 35", and longitude, east, 147° 28', is situated about twelve miles from the mouth of a noble river, the Derwent, which is deep and in parts three miles wide. There is ample wharf accommodation for vessels of the largest tonnage. On approaching Hobart Town, up the river, a grand view of Mount Wellington, in the background—at the foot of which is Hobart Town—is presented to the eye. The situation of it is unsurpassable, whether in grandeur of scenery, or for purposes of commerce. On a promontory jutting out into the river is the Government House, a handsome structure, which has cost over £100,000, surrounded by sloping lawns kept always green. The town gradually rises from the water's edge, and spreads out over the slopes, terminating in an amphitheatre of hills; and from various heights are most picturesque views. Hobart Town has a population of about 25,000 persons, and is the

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capital of the island, where reside the Governor and all the Government officials. It is a most delightful place for all who seek change from the busy turmoil on the other side of the straits. In the neighbourhood is good fishing and shooting. There are many commodious hotels and boarding-houses—the latter charge £2 2s. per week, the former £2 10s. to £3 10s.—equalling those of Launceston in accommodation. The summer mean heat is 62°, the winter 47°. The lowest usually felt is 29°. The mean temperature of Hobart Town over twenty-five years was 54° 45'. The north side of the island, by Bass's Straits, has a greater rainfall; the clouds laden with water are often arrested by the high ranges west of Hobart Town. In the winter the air is bracing and frosty, the sky is bright; and between the frequent showers in the winter months—from May to October—the sun imparts a cheerful appearance to the landscape; and, as large fires are kept up in all the houses and hotels, the winter is most enjoyable. There are parlours off the hotel bars, well carpeted, and furnished with sofas and easy chairs; and the eye of a Victorian is delighted to see a veritable register grate with hobs, upon which is a bright copper kettle, and a copper beer warmer of the approved conical-bottomed shape, depending from the bars. All persons vie in showing attention to strangers. Hospitality reigns throughout the country, whether amongst the settlers or the townsfolk of Hobart Town or Launceston, who are particularly gracious to Victorians; many of whom with their families annually proceed across the straits for months, to absent themselves from the hot winds of the mainland.

ITINERARY.—"Leaving Launceston the traveller is conveyed by a daily four-horse coach to what is termed the Western District. On this road, ten miles from Launceston, it passes through Carrick; Westbury (thirty-five miles,) and Deloraine (forty-five miles,) and from thence, pursuing a track through the forest, he may reach the settlements from the Mersey to Circular Head, on the rivers which empty themselves into Bass's Straits on the north. Passing out of Launceston, on its eastern side, the traveller proceeds through the districts of Patterson's Plains and the White Hills. At a point of the main line, eight miles from town, a cross road branches off to the town of Evandale, eleven miles from Launceston; and further on the village of Lymington, on the Nile. At Perth a branch road runs off to Longford, Cressy, and Bishopsburne, in the district of Norfolk Plains. From Campbelltown, on the Hobart Town road, a cross road runs to Avoca, forty-eight miles from Launceston; Pingal, sixty-six miles; and Falmouth, on the eastern coast, sixty-six miles from Launceston. Branch roads in the same manner, as the traveller proceeds southward, carry him to the districts of Macquarie, Bothwell, Hamilton, and other places on either side of the great highway. A railway now connects Westbury and Deloraine with Launceston.

"Leaving Hobart Town the traveller is conveyed by steamer to

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New Norfolk, at a distance of twenty-one miles, up the Derwent, north of Hobart Town. Leaving Hobart Town to proceed southward, he comes to the settlement of Brown's River, at the distance of ten miles, and to the settlements on the River Huon, to which he may go by land or by steamer, a distance of twenty-two miles. Steamers run constantly from Launceston to the ports on the north-western coast; and from Hobart Town to places on the eastern coast.

CHAPTER II.

COUNTIES—MOUNTAINS—ISLANDS—LIGHTHOUSES—LAKES— RIVERS—STATISTICS.

COUNTIES.—There are eighteen counties, viz.:—Northern: Dorset, Devon, Wellington, Cornwall; Eastern: Glamorgan; Central: Westmoreland, Lincoln, Somerset, Cumberland; Western: Russell, Montague, Franklin, Montgomery, Arthur; Southern: Pembroke, Monmouth, Buckingham, Kent.

MOUNTAINS.—The land generally rises towards the centre of the island, which is very hilly. Two chains of mountains, the eastern and western tiers, run through it, nearly north and south; the intermediate space is but partially occupied. Portions of the east are settled; but little to the west, except in proximity to the northern shore. In the eastern tier Ben Lomond rises to a height of 5002 feet; Ben Nevis to 3910. In the western tier are Mount Humboldt, 5520 feet high; Dry's Bluff, 4500; Mount Arrowsmith, 4075; and Valentine Peak, 6000 feet. Mounts Wellington, 4170; Dromedary, 3245; The Thombs, 1800; Bruni, 1660; and Cape Pillar, are on the Hobart Town side of the island. As already noticed, the lofty granite-capped mountains, extending across the straits, towards Wilson's Promontory, denote Tasmania to have been at one time a portion of the continent.

Mr. Brough Smyth says, "the sections across the straits, through the chain of islands, which were prepared some years ago by Dr. Ludwig Becker, show that a not very considerable elevation of the land would exhibit the extension of the cordillera in such a manner as to be convincing."

Collins' Library Atlas mentions that—"The principal ridge of hills which forms the main watershed of the island originates at the north-eastern point, opposite the Furneaux Group, and trends southward, nearly parallel to the coast. One branch bends gradually round south-west and west, and ultimately north-west, and coalesces in the centre of the island with a plateau 2000 feet high. From

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this a chain passes off north-west through Wellington county to West Point, the most western cape of the island. The central plateau divides the waters of the Tamar and Derwent, which flow in parallel courses in opposite directions; their tributaries, and many other streams running in all directions, have their origin in this central high ground; on which also lie many large lakes. The other branch, passing through Glamorgan county, between Somerset and Monmouth on the one side, and Pembroke on the other, approaches the estuary of the Derwent, opposite to Hobart Town, and here fronts the high picturesque group, of which Mount Wellington is the centre. This group is the terminal portion of a high ridge which passes south-east from the central plateau. It is continued west and north-west, and spreads out into an irregular mass of high mountains, which occupies the whole south-west section of the island, westward of the Derwent, to the left bank of which the main ridge presses so closely that it receives very little water on this side. The drainage of the whole area is carried off by two large streams—the Jordan and the Huon—running in opposite directions, and in nearly parallel courses to the Western and Eastern Seas."

MARIA ISLAND, on the east coast, covers 24,000 acres, and is leased as a sheep station. Schouten Island, on the east coast, is 7000 acres. Franklin Island, in Storm Bay, is in sight of Hobart Town, and here the Acclimatisation Society breed partridges, rabbits, hares, deer, pheasants, and "Mr. John Woodcock Grooves, solicitor, the manager, anxiously corresponds with residents of other countries who may desire an exchange of birds or beasts." The Huon, Arch, Slopen, and Partridge Islands, in the channel, are all cultivated by farmers. Pig Island and Garden Island are in the Tamar.

GOOSE ISLAND, in Bass's Straits, is south-west of Flinders' Island. Hereon is one light, fixed, seen twenty miles.

SWAN ISLAND is at north-east corner of Tasmania, in Banks' Straits, and hereon is one light, revolving, seen twenty miles.

KENT'S GROUP.—On Deal Island, Bass's Straits, is one revolving light, seen thirty-six miles.

IRON POT ISLAND is in Storm Bay, into which the Derwent debouches on the south. On Cape Direction is one fixed light, seen eight miles.

BRUNI ISLAND.—This island is fifty miles long, on the south-east coast of Tasmania; and at a point east of D'Entrecasteaux's Channel is one revolving light, seen twenty-four miles.

LAKES.—These are all fresh. The Great Lake, fifty miles in circumference, has an area of 50,000 acres, and is situated on the central plateau; it is 3822 feet above sea level, and very deep. Lake St. Clair—10,000 acres—is west of the Great Lake; and Lake Arthur—15,000 acres—is east of it. Lake Sorrell—15,000 acres—is east of Lake Arthur. All the above are very deep. Lake Crescent—6000 acres, shallow—is south of Lake Sorrell. Lake

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Echo—8000 acres, shallow—is south of the Great Lake. Lake Pedder—2500 acres—is 2000 feet above the sea, and west of Hobart Town. Lake Tiberias—3000 acres—is near the source of the Jordan, 1300 feet above the sea. Lake Tooma is in the Macquarie Basin.

RIVERS, &c.—The island abounds in rivers, rivulets, creeks, and ports, viz. :—

ON THE NORTH COAST.—The Tamar is a beautiful river, navigable for vessels of the largest tonnage. It is the estuary of two rivers, the North and South Esk, which, at Launceston, join and empty into the Tamar, and this flows into Bass's Straits; as does the Mersey, a considerable stream, navigable for vessels of fourteen feet draught. We learn from notes in the Hobart Town *Mercury*, by Mr. Hull, that "the rivers watering the county of Devon, a coast county, occupying the centre of the north of Tasmania, are the Emu, Blyth, Leven, Gawler, Forth, Don, Mersey, Dasher, Rubicon, Flowerdale, Supply, and Meander; also the Sulphur, Penguin, Clayton, Green, Muddy, Caroline, Franklin, York Town, Anderson, and Middle Arm rivulets. The ports at which vessels enter and take produce to Launceston, Victoria, and other colonies, are:—Port Dalrymple, at entrance of the Tamar (on Low Head is one revolving light seen eight miles,) Sorrell (Rubicon,) Frederick (Mersey,) the Don, Leith, Leven, Emu Bay, and Circular Head; Torquay and Latrobe on the Mersey, and Leith on the Forth, are sea ports and custom-house stations, where vessels enter and clear out with cargoes. The South Esk has a course of 100 miles; and the Quamby, Liffey, St. Paul's, Nile, and Macquarie, are branches of it. The Blackman, Elizabeth, Lake, and Isis flow into the Macquarie; the St. Patrick's into the North Esk.

ON THE EAST COAST.—Falmouth is a port in county of Cornwall. In Glamorgan county are five sea-port towns—two customs' stations. From Seymour coals load for Hobart Town; and from Becheno and Swansea, as well as from Spring Bay, opposite Maria Island, vessels trade with Hobart Town and Victoria.

ON THE WEST COAST.—The Arthur with its tributary, the Hellyer, empties in the north-west. Macquarie harbour, an extensive inlet, accessible, is on the west, and into it flow the King—with its tributary, the Collingwood—and the Jordan, a noble river, from the south-east, carrying the Denison, Franklin, Serpentine, and other rivers which water the counties Russell, Franklin, Montague, and Montgomery. "The character of these counties is rugged, having high mountains with deep and densely timbered valleys, and extensive plains along which run large and rapid mountain streams, on the banks of which, the most splendid cabinet and ornamental timbers are found." The west coast is rocky and inhospitable.

PORT DAVEY is a noble harbour, accessible, on the south-west coast, in county Arthur. These are called the unsettled lands

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which have, as yet, been little explored, but Mr. Hull foretells that in time, "These plains, if drained, and access be made to them, would most surely vie with those in the settled districts." Into Port Davey flow the Davey and Spring.

ON THE SOUTH COAST.—The Derwent flowing from Lake St. Clair in the west, by Hobart Town is a grand river, and navigable for forty miles, debouching into Storm Bay on the south-east coast. The Nile, Florentyne, Dee, Broad River, Ouse, Clyde, Russell Falls, Styx, Lachlan, Humphrey, and Newtown Rivers flow into the Derwent.

The Huon is also navigable. It is a noble stream, rising in the south-west near Lake Pedder, and in its course through a fertile country it carries the Craycroft and Picton; and empties into D'Entrecasteaux's Channel, separated from Storm Bay by Bruni Island. The channel meets the bay near to Hobart Town.

PENINSULAS.—Freycinet Peninsula is east of Oyster Bay on the east coast. Tasman's Peninsula is the extreme south-east coast, and it is connected with the mainland of Tasmania by Forrester's Peninsula.

CAVES.—On the north coast are Circular Head, Table Cape, Flinders' Point, Five-mile Bluff, and Cape Portland.—Here Banks' Straits separate Tasmania on the north-east coast from the Furneaux Group.—On the east are Cape Naturaliste, Eddystone Point, St. Helen's Point, St. Patrick's Head, Capes Tourville, Bougainville, Bernier, and Frederick Henry; Cape Pillar, on Tasman's Peninsula, south-east of Port Arthur; and Cape Raoul on the south-west of it. On the west coast are Cape Grim, West Point, Bluff Point, Cape Sorrell, Point Hibbs, Rocky Cape, South-east Head. On the south coast are South-west Cape, South Cape, South-east Cape, Tasman Head; Cape Direction at mouth of the Derwent.

BAYS.—On the north coast are Emu Bay, Port Frederick, Port Sorrell, Port Dalrymple, into which the Tamar disembogues, Anderson's Bay, Ringarooma Bay. On the east coast are Bay of Fires, Oyster Bay—a large inlet—Great Swan Port, Little Swan Port, Prosser Bay, Marion Bay. On the west coast are Macquarie Harbour, Port Davey, and Bathurst Harbour. On the south are South Cape Bay, Recherche Bay, Cloudy Bay, Adventure Bay, Storm Bay—Frederick Henry, and Norfolk Bays (inlets of Storm Bay); Port Arthur, west of Cape Pillar.

CONSTITUTION.—The Governor is appointed by the Queen. The present Governor is Mr. T. A. Weld, who is assisted by a responsible Ministry of five members of either House of Parliament—a Colonial Secretary, a Treasurer, Attorney-General, Minister of Land and Works, and a Minister without office.

LEGISLATIVE COUNCIL.—This consists of sixteen members elected for six years, chosen by ballot by persons owning a freehold of £50 per annum, or a leasehold of £200.

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LEGISLATIVE ASSEMBLY.—This consists of thirty-two members elected for five years by ballot; by persons owning a freehold of £30, or renting a house of £7 per annum.

LAND LAW.—There are three descriptions of land, town land, agricultural, and pastoral. Agricultural land is £1 per acre for an area not exceeding 320 acres. Pastoral lands can be had at a sum equivalent to twelve years' rental, but not less than five shillings per acre; but a person can select a piece of land, of 320 acres, which the commissioners will have surveyed at his expense, and he can purchase it for cash; a deposit of one-fifth must be made, and the residue within one month. If upon credit one-third of the purchase money is added to the cost, and, by paying one-thirtieth in cash, the selector will be allowed to pay off the balance by fourteen annual payments. The lease is transferable with consent of the Governor. In this case a condition is that residence by self, tenant, or servant shall commence within one year after selection, and continue till the purchase money be paid, but no compulsory clause is enforced if one-third of the purchase money—one-third being added—be paid in cash, and the balance in eight annual instalments. The commissioners can also, after survey, fix an upset price for any parcel of land, and then can sell the same by auction. Town lands unsold at auction can be selected at the upset—fixed—within one year afterwards.

Mr. T. C. Just says, "The agricultural lands in hands of the Government are, without exception, timbered more or less heavily, and are difficult of access. To fall the scrub occupies a good axeman one week for an acre, and an ordinary good burn off leaves about the same amount of labour to pile into fires. Two handy men can split all the stuff, and put up a comfortable four-roomed back cottage in about a month or six weeks."

MINERAL RESOURCES.—The quartz reefs, although very promising, have not, as yet, been properly tested. About 3800 ounces gold were raised in 1874; but it is probable that the development of her extensive tin and iron deposits will raise Tasmania from her present obscurity.

THE TIN ORE was discovered on Mount Bischoff, forty miles from Table Cape, on the north-west portion of the island, by Mr. James Smith, a settler at the River Forth. The ore rests in a depression on the summit of the mount. The wash dirt is said to be thirty feet thick, and several companies have been formed to work eighty-acre block claims. The two principal companies are the Mount Bischoff and the Stanhope, both of which have erected extensive ore-dressing plants on the mount. The Stanhope has erected furnaces on the ground already in operation; and the Mount Bischoff has now in operation in Launceston two smelting furnaces, capable of turning out thirty tons each of smelted tin per week; and has shipped, during 1875, 637 tons smelted tin, valued at £32,000.

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"The matrix in which the tin ore is found is a sort of quartz porphyry, and of this Mount Bischoff seems to be more or less composed. The ore occurs in veins or branches running through the porphyry, and also in the form of stream tin, the detritus of those veins dispersed through the surface drift. It is simply disintegrated lode ore, and evidently has not travelled far; as the crystals are very angular, and solid nuggets are found in the drift varying from a few grains to over five hundredweight."

IRON AND TIN.—"Iron seems to be profusely scattered in a broken chain of more or less rich deposits, extending from Circular Head, on the north-west, to Falmouth, on the eastern coast. The principal iron-bearing country is situated upon two arms of the Tamar, known as West Arm and Middle Arm, and within five miles of Georgetown lighthouse, at the mouth of that river." In 1822, Mr. Surveyor-General Evans wrote:—"Within a few miles of Launceston there is a most surprising abundance of tin. Literally speaking, there are entire mountains of this ore, which is so remarkably rich, that it has been found to yield seventy per cent. of pure metal." Again, Mr. Commissioner Bigge reported:—"At the distance of eight miles from Port Dalrymple considerable quantities of iron ore have been discovered upon the surface, which, upon analysis in England, have been found to consist of pure protoxide of iron, similar to the black iron ore of Sweden, and furnishing a very pure and malleable metal." Respecting the county of Dorset, bounded on the west by the Tamar River, Mr. H. M. Hull remarks:—"Iron ore has been discovered to exist, estimated to be in drifts of several hundred thousand tons, on the banks of the River Tamar."

MINERAL LEASES.—Areas of eighty acres can be leased for twenty-one years, with the right of extension for fourteen years, at an annual rental—five shillings per acre.

VESSELS' TONNAGE.—In 1874, 607 vessels, of 119,706 tons, entered inwards; and 620, of 119,801 tons, cleared outwards.

STATISTICS.—In March, 1875, the live stock in the colony numbered 23,208 horses; 110,450 cattle; 1,714,168 sheep; and 51,468 pigs; and 331,366 acres were under cultivation. During the year 1874 the revenue amounted to £327,925, and the expenditure to £318,277. The imports amounted to £1,257,785, and the exports to £925,325. The public debt on 31st December, 1874, was £1,476,600. The population numbered 104,176, viz., 55,117 males, and 49,059 females. During 1874, 6265 persons arrived, viz., 4857 at Launceston, and 1408 at Hobart Town; and 7714 departed, viz., 5852 from Launceston, and 1862 from Hobart Town. The imports to Launceston amounted to £553,663, of which £170,660 were from the United Kingdom, and £346,719 from Victoria; and to Hobart Town £704,121, of which £375,841 were from the former, and £211,373 from the latter country.

BANKS.—Five banks, possessing a capital of £2,900,000, in 1875,

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held £245,490 bullion, besides balances due by other banks, £68,824; had notes in circulation £111,306; held deposits £1,052,195; and owed to other banks, £1,127,549.

SAVINGS' BANKS.—One in Hobart Town, and another in Launceston, held deposits £270,816.

ELECTRIC TELEGRAPH.—291 miles of wire are open, and 205 additional are in course of construction. The inland tariff is one shilling for ten words, and one penny per additional word. A cable unites Tasmania to Victoria, the tariff being four shillings for ten words, and fivepence per additional word, exclusive of name and address, limited to ten words.

RELIGION.—According to the census of 1870, the total number of churches and chapels in the colony was 316, the ministers of all sects being 129. The religious denominations were thus enumerated:—Church of England, 53,047; Roman Catholics, 22,091; Church of Scotland, 6644; Free Church of Scotland, 2420; Wesleyan Methodists, 7187; Independents, 3931; Baptists, 931; Jews, 232; Society of Friends, 82; other sects, 2763.

EDUCATION.—There are seven public schools in Hobart Town, three in Launceston; and at least one in every country township, numbering 116, supported by the Government, open to all. There are four high schools—Horton College, High School, Hutchinson's School, Church of England Grammar School. These and the private schools send up pupils every year to pass an examination for the degree of Associate of Arts, which entitles the holder to compete annually for a scholarship of £200, tenable for four years, at a British university. The education of every child is compulsory, under a penalty of £2.

TARIFF.—This is highly protective. Spirits, &c., twelve shillings per gallon; wine, in wood, two shillings per gallon; in bottle, six shillings per dozen quarts; ale and beer, in wood, sixpence per gallon; in bottle, two shillings per dozen quarts; pickles, three shillings per dozen quarts, two shillings, pints; sewing machines, ten shillings per cwt.; cutlery and platedware, sixpence per pound; carriages, on two wheels, £5, on four wheels, £10; pianofortes, each £5; manufactures of silk, cotton, woollen, &c., five shillings per cubic foot; furniture, two shillings per cubic foot; boots and shoes, five shillings per cubic foot; wool bags, twopence halfpenny each; timber, eight shillings per load of fifty cubic feet; and so on all round, with the exception of certain goods exempted.

SHEEP AND CATTLE IMPORTED.—A duty of one shilling and sixpence each is levied on sheep; £1 10s. each on cattle; beef, pork, or mutton, one shilling and sixpence per 100 pounds; on tallow and suet, three shillings per 100 pounds. In 1874, four sheep were imported from the United Kingdom, valued at £165; 12,575 from Victoria, at £12,090; 2917 from New South Wales, at £2910; and 789 from South Australia, at £750. From Victoria, sixty-eight head of cattle were imported, valued at £1225; and from New South Wales, 713 at £7230.

NEW SOUTH WALES.

CHAPTER I.

FROM CAPE HOWE TO SYDNEY.

CAPE HOWE is in latitude, south, $37^{\circ} 30' 23''$, and longitude, east, $149^{\circ} 58' 35''$, and is the easternmost boundary line of Victoria. Herefrom an imaginary line runs to the "Springs," (sources of the Murray,) Forest Hill, in latitude, south, $36^{\circ} 47' 56''$, and longitude, east, $148^{\circ} 11' 57''$. The geodetic survey of Victoria has proved that Victoria is exercising jurisdiction over 360 square miles of South Australian territory, inasmuch as the western boundary line of Victoria between the two colonies—the 141st meridian of longitude—has been erroneously laid down on the $140^{\circ} 58' 7.26''$. A strip of country 242 miles long, by one and a half miles wide, is thus in dispute, the adjustment of which has been referred to the Privy Council.

RIVERINA.

This name is usually applied to the extensive pastoral district north of the Murray, as far as Queensland, watered by the Murray (upper and lower,) Murrumbidgee, Lachlan, Darling, and their tributaries.

UPPER MURRAY RIVER.—Proceeding down the Murray, about 400 miles from its source, a point—Albury—is reached, where the navigation upwards ceases.

ALBURY.—A port 1703 miles from the Murray mouth, in latitude, south, $36^{\circ} 4'$, and longitude, east, $146^{\circ} 57'$, is situated on the north bank of the Murray, 364 miles south-west of Sydney, and opposite to Wodonga. A bridge connects the two towns, which are two miles apart. Albury has a population of about 5000, and is becoming a place of importance. The Albury wines are highly esteemed, the vine attaining to great perfection; and there are numerous vineyards in the neighbourhood. The principal part of the Riverina trade is transacted by Victorian and Adelaide merchants, and a fleet of steamers of light draft plies on the rivers. The great extent of country north of the Murray, and the liberality of the land laws, is causing the squatters of Victoria to transfer their capital to the sister colony, and there they now own large possessions. The *Echo* remarks:—"The live stock

return of the colony of New South Wales, on the 31st March, 1875, shows that there were in Riverina 5,393,957 sheep, 191,371 head of horned cattle, 27,327 horses, and 10,766 pigs. Of the sheep in the whole colony, one-fourth belongs to this province, and the number of these animals in the Albury police district is set down at 1,059,333."

WODONGA, a port, is on the south side of the Murray, the terminus of the North-eastern line of railway, 187 miles from Melbourne. It is an agricultural district, very much improving. The population of the town is about 1000. 'Busses run to Albury every hour.

COROWA, a port, is on the north bank of the Murray, thirty-eight miles west of Albury, 406 miles south-west of Sydney, and 187 miles north-east of Melbourne.

WAHGUNYAH, a port, is on the south side of the river, and is seventeen miles from Chiltern, on the North-eastern line, which is 168 miles from Melbourne. A bridge connects Wahgunyah in Victoria with Corowa in New South Wales.

MULWALA, a port north of the Murray, west of Corowa, is 433 miles south-west of Sydney, and 177 east of Echuca.

TOCUMWALL, a port north of the Murray, is 467 miles south-west of Sydney. Opposite, on the Victorian side, is a Custom-house.

MOAMA is situated on the north bank of the Murray, south-east of Wentworth, and is 539 miles south-west of Sydney, immediately opposite Echuca. It has a population of about 500, and will shortly be connected by rail with Deniliquin.

DENILIKUIN, 488 miles south-west of Sydney, is forty-eight north of Moama, on the Murray. The town has a population of about 2000; the district of about 4000. It is the centre of a very thriving pastoral country, and here are vast plains of salt bush. As illustrative of the area of stations in the district, the following is from the *Pastoral Times*:—"Willandra Creek Station, Lachlan River, is to be enclosed by a substantial fence. The contract is taken for 100 miles of this fence. At £50 a mile the cost of the outer fence alone would be £5000. To subdivide the run would cost at least £5000 more. Thus £10,000 are gone on two items. To stock fairly such a run would involve £25,000—then we have the homestead, outlying huts, stockyards, say £5000 more, or £50,000 in all to begin to work the station profitably. The Hon. W. W. Wilson, a Victorian capitalist, is the owner of Willandra. While Victorian journals and politicians are talking of annexing Riverina politically, Victorian capitalists are positively annexing us commercially."

ECHUCA, a port on the south side of the Murray, 403 miles west of Albury, is the terminus of the railway; distant 156 miles from Melbourne. This is the outlet from Riverina for a large quantity of fat stock, which is daily conveyed to Melbourne. It is the centre of a large pastoral and agricultural district. There are many saw mills in the locality. It has a population of about 2000.

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LOWER MURRAY RIVER.—Descending it, Swan Hill, a port on the south side of the Murray, is 231 miles north-west of Melbourne, 612 miles south-west of Sydney, 240 miles west of Echuca, and 1060 miles from the Murray mouth.

NARUNG, a port of Victoria south of the Murray, is nearly opposite Wakool Junction, 345 miles west of Echuca.

MOULAMEIN, a port on the Edwards, is about 365 miles from Echuca.

MURRUMBIDGEE JUNCTION, is 378 miles west of Echuca, and 922 from the mouth of the Murray.

MURRUMBIDGEE RIVER.—Ascending the Murrumbidgee, Balranald is on the north side, 554 miles south-west of Sydney, and 473 west of Echuca. Although navigable as far as Gundagai, steamers proceed only to Wagga Wagga, 703 miles from the Murray mouth. It is the principal crossing place for stock from the Darling and Lachlan to Victoria, and here are punts for the purpose. The population is about 300.

MAUDE is north of the Murrumbidgee, 507 miles south-west of Sydney.

HAY, 1247 miles from the Murray mouth, is on the north side of the Murrumbidgee, 493 miles south-west of Sydney, and is an important crossing place, east of Balranald. The population is about 700; of the district about 4000. It is situated on a vast plain, no hills even being within 100 miles, and has the peculiarity of having no stone within a considerable distance. The soil is not very good, little of it being under cultivation, with the exception of some portions, cultivated by the indomitable energy of the Chinese. Little else is abundant but the salt bush, upon which stock fatten rapidly. There is a splendid iron bridge, which revolves on a pivot sunk in the bed of the river, so that the steamers can pass on either side, and it is easily worked by one man. The place is rapidly rising in importance, and will, perhaps, ere long become one of the most flourishing towns in Riverina, especially when connected by rail with Deniliquin.

NARRANDERA is on the north side of the Murrumbidgee, 375 miles south-west of Sydney.

WAGGA WAGGA is a township on the south side of the Murrumbidgee, 315 miles south-west of Sydney. It is on the main line of road from Sydney to Victoria, and around it is an extensive pastoral district. The Great Southern Railway, open to Gunning, 165 miles from Sydney, is being continued on to Wagga Wagga, distant from Wodonga, the terminus of the Victorian North-eastern line—about eighty-seven miles; and when this short line is constructed, Sydney and Melbourne will be connected by rail. This town promises to become of considerable importance, and already commands a large trade with the surrounding districts. The population is about 3000, and of the district about 6500. Here is a telegraph

office, savings' bank, court-house, good hotels, churches, chapels, and two newspapers are published in the town.

ARTHUR ORTON CONSPIRACY.—A fine terrace of houses now stands on the identical spot where abode an expert butcher—Tom Castro, *alias* Sir Roger Tichbourne, *alias* Arthur Orton; and here, in 1867, was hatched the conspiracy, which developed in Sydney, and gradually fructified in London, to defraud the present infant owner of one of the most ancient estates in England, with a revenue of at least £25,000 per annum. Lady Tichbourne never would believe her son was drowned, although his servant saw him go on board the *Bella*, at Rio de Janeiro. Although the ship never reached a port, portions of the wreck were found, and the ship's boat was found bottom upwards; and he, a most industrious correspondent with numerous persons, up to going on board ship, never wrote another line. As Lady Tichbourne continually advertised a reward of £1000 for intelligence of her lost son, and as Orton had been at Valparaiso, he entered into correspondence with the old lady, and learned enough from her to induce him to come forward as the lost heir. His abettors in Wagga Wagga were innocent enough, but very green. This perjurer, swindler, associate of bush-rangers, and strongly suspected murderer of Ballarat Harry—his mate—who had mysteriously disappeared; so ignorant as to write all his I's as i's, which the real man, throughout many volumes of letters produced at the trial, never did; this miserable poltroon—in order to furnish a cause for his twelve years' silence, and because Lady Radcliffe pronounced him to be an impostor—actuated by revenge, professed to have seduced Lady Radcliffe, his cousin, and to have left her *enceinte*. This was one, amongst other cases of perjury, of which he was convicted; as it was clearly proven that the real man was not in England at the time of the alleged seduction.

The chagrin of the lawyers and *mirabile dictu* bank managers—canny Scots—who had furnished him with seven hundred pounds to make a start, may be imagined; especially as their wives and daughters had intimately associated with, and they had mi-lorded a swindler, now picking oakum, with a broad arrow on his back, and mi-ladyed an ignorant Irish help—too good for him. Green as were the colonial folk, greener still were the English. A company was formed, which, for a *quid pro quo*, not *in esse*, but *in posse*, issued £30,000 debentures, and undertook to prosecute the case; and who thought to pillage the estate, because a cranky old woman had worked herself up to such a pitch of fanaticism, as to be willing to believe any man—backed by co-conspirators—to be her son. When at last seen, every member of the family pronounced the claimant to be an impostor. He had been afraid to meet any of them until he had been well tutored by old servants of the family. His allies were Bogle—a negro—who had served the family forty-five years, and who, for his treachery, has forfeited his £50 per annum pension

from the family; and he had quartered in and out of his house several soldiers of the real Roger's regiment, to help him with information, as necessity arose.

All were eager to swear anything, and to partake of the expected scramble, but the prime abettors were one Baigent, who described himself as a genealogist, and a withered spinster, who, whilst aiding in traducing her very dear pupil, Lady Radcliffe, hypocritically spoke affectionately of her. But, *quem deus vult perdere prius dementat*; and demented must the claimant have been when he referred to Boisdale, and swore that he had not served under Mr. William Foster as Arthur Orton, for twenty months.

We lately met Mr. Matthew McAlister, who married the said Mr. Foster's widow, and who, at the time, was an overseer on the Boisdale Run. He informs us that when the conspiracy was first declared, although the claimant's agents informed him that Tom Castro hailed from Boisdale, both he and his wife could recollect no such name; but one day Mr. Montgomery, another overseer on the run, returned from Melbourne with a photograph of the claimant. Immediately after Mr. McAlister and his wife saw it, they—highly respectable and wealthy persons—both pronounced it to be that of Arthur Orton, of Boisdale, before any reference was made to them by the other side. They were examined before the commission, and ultimately both proceeded to England, fully identified him, and produced the station books, which proved that no Tom Castro ever was on the station; but that Arthur Orton entered Mr. Foster's service, not in 1854, as the claimant swore he did (thus wisely ignoring his Hobart Town experience,) but in December, 1856. As recounted by the claimant himself, his life in the name of Tom Castro was identical with that of the Arthur Orton, at Boisdale. To get over this difficulty he avers there was both an Orton and a Castro in the service of Foster, but all on the station totally deny the assertion; and the books are indubitable evidence. The name of Castro he adopted at Wagga Wagga. The claimant refused to accompany the commission and to face the witnesses in Australia, as many other station hands could have identified him, having only so far altered in appearance that he had become grosser. In like manner he refused to proceed to South America to face the witnesses whom the commissioners examined. Although he started from England with them he gave them the slip in South America; but Donna Haley, a Spanish lady, wife of an English physician, long settled at Melipilla, was brought over and at once identified him as Arthur Orton, the runaway sailor youth whom they had befriended, and who had roamed for months about the town, living with one family and another, and she also deposed that he had stated his father to be butcher to the Queen. Whilst he admitted his presence at Melipilla, he abjured the name of Orton, although the ship's log proved he, at the time, landed in that name.

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The McAlisters proved that he did not come to them till 1856. Two Hobart Town witnesses proved he was at Hobart Town, and the cook of the ship *Middleton* identified him as Orton with whom he sailed,—and who was in charge of a pair of Shetland ponies—to Hobart Town in 1852, so that not one link was wanting in tracing his whereabouts at any time, and yet there are some fanatics who disbelieve all this evidence. We regard as an impossibility that the *Osprey*, or any other full-rigged vessel, could pass through the Heads, anchor and remain in Hobson's Bay unknown to the pilots, health officer, and water police, and to be not reported at the Custom House. At the very height of the gold fever, late in 1853, the writer was sailing about Hobson's Bay several times a week, as he owned three cargoes of Singapore cedar, which could not all be landed under six months; and we can attest that, although on shore confusion existed on the wharves, yet in the Bay the most rigid scrutiny was exercised by the water police, and at the Custom House as much regularity existed as at present. Well do we remember, that on our arrival from Tasmania, again from Sydney, and again from Adelaide, Inspector Stoney and six constables came on board, marshalled every one on deck, and then thrust swords into every corner of the hold. Can any one believe that a lot of shipwrecked sailors, and a large vessel, could escape the ken of the ever-vigilant inspector, keen after ticket-of-leave men, who were prohibited landing in the colony.

GUNDAGAI, 1707 miles from the Murray mouth, is a township on the north side of the Murrumbidgee, 245 miles south-west of Sydney. An iron bridge here spans the Murrumbidgee, which cost £38,000. There are fine buildings, stores and hotels. The population of the district, which is a mining, as well as a pastoral and agricultural one, is about 8000 or 10,000. The valleys and flats are highly fertile. The river, at times, is navigable for steamers thus far. The original township on the flat was completely washed away in 1852, when, out of a population of 250 persons, eighty-nine perished; and whole families took refuge on the roofs of their uplifted and moving houses, and in the trees above the flood-mark, until they could be picked up by boats or rafts.

LOWER MURRAY RIVER.—Re-starting down the Murray, EUSTON is on the north side, 608 miles south-west of Sydney, and 487 miles west of Echuca.

WENTWORTH, north of the Murray, is 700 miles south-west of Sydney, 713 miles west of Echuca, 587 miles from the Murray mouth, and 1250 miles from Bourke.

COWANA is a Victorian port on the south side of the Murray, opposite to Wentworth.

LOWER DARLING.—Ascending it, MENINDIE is on the north side of the Darling, 850 miles west north-west of Sydney, and 1178 miles from Echuca. It has a population of about 300, and

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is a growing town; the district, which is purely pastoral, numbers about 1200.

WILCANNIA is a thriving township on the north side of the Darling, 583 miles west of Sydney, 250 miles north of Menindie, and 220 miles south of Bourke.

BOURKE, in latitude, south, $30^{\circ} 9'$, longitude, east, $145^{\circ} 42'$, was formerly called Fort Bourke, and must not be confounded with Burke Town, on the Albert. The plains around are well grassed, and there are large tracts of salt bush. It is on the high road of travelling stock from the north, north-west and Queensland. It is 535 miles north of Wilcannia, 1837 miles from the Murray mouth, 1350 miles from the Gulf of Carpentaria, and is distant 576 miles north-west of Sydney. But all these towns on the Darling are more accessible from Adelaide and Melbourne than from Sydney, and therefrom they obtain their stores. Some very promising copper mines are being opened up within 100 miles, and the district has a bright future. The town has a population of about 1000 or 1500; and a newspaper—*The Central Australian and West Bourke Telegraph*—is here published.

UPPER DARLING RIVER.—Walgett is situated at the junction of the Namoi River and the Barwon—here designated the Upper Darling—and is the extreme point to which the steamers ply. It is 450 miles north of Sydney, and has a population of about 200. It is an extensive pastoral district. Walgett is 400 miles higher up the river than Bourke, but is by land distant only 140 miles therefrom. So tortuous is the course of the Murray and its tributaries, that by water Walgett is 2237 miles from Port Goolwa, and 2363 miles from Echuca.

The Darling extends along the backbone of New South Wales into Queensland, the southern drainage of which finds its way down and furnishes the head waters of the river. Ascending it, its tributaries are the Bogan, Macquarie, Castlereagh, Namoi, Barwon, Warrego, Culgoa, Gwydir, McIntyre, and Dumaresque—these two last enter it by marshes, and are within the Queensland boundary line.

Resuming the voyage from Melbourne:—Touching the navigation of the eastern coast, the *Herald* observes: "It is not generally known that the coast from here to Sydney consists of a series of bay-like indentations forming half-moons. At the point of each of these lunar horns a reef of rocks usually juts out, sometimes but a few feet, sometimes for considerable distances. By cutting these points exceedingly fine much distance is saved, but danger is increased in a corresponding ratio. In fine weather, with a fair wind, a moderate swell, and a clear sea—the beat of which is not too heavy against the land—the skilful officers who are accustomed to run this line will put their boats in so close to each point that a stone could be thrown ashore without

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exertion; but as night approaches, the wise rule of the A.S.N. Company—that no boat should approach the land closer than three miles—is attended to, and her head points steadily outwards, and ere dark she is plunging through the rougher surges miles from shore.”

TOWAMBA RIVER is south of Twofold Bay.

TWOFOLD BAY.—Eden, in latitude, south, $37^{\circ} 16'$, and longitude, east, $149^{\circ} 54'$, is about twenty-five miles north of Cape Howe, 420 north-east of Melbourne, and 270 south-west of Sydney.

On Point Look-out is a red fixed light, seen nine miles.

In 1860 a rush took place to the Snowy River—Kiandra Diggings, 159 miles north-west of Eden, and this became a very busy township. The collapse of the diggings caused the desertion of the town; although there are about 200 persons there now, and about 1500 in the district. The Illawarra Company's steamers call weekly. In size and security it is all that can be desired. It is a pilot station, and is valuable as a port of refuge. Some of the Melbourne and Hobart Town steamers call here. The former take away pigs and bacon, and the latter cattle and sheep.

Bega River is north of Twofold Bay. Tuross River is north of the Bega. Moruya River is south of Bateman's Bay. The Clyde River empties into Bateman's Bay.

ULLADULLA Harbour Light is on a pier; fixed, green, and visible from seven to nine miles.

JERVIS BAY, a fine harbour, is north-east of Bateman's Bay. Near Cape St. George is a fixed red, white and green revolving light, seen fifteen to twenty miles.

SHOALHAVEN, in latitude, south, $34^{\circ} 54'$, and longitude, east, $150^{\circ} 42'$, is upon the river Shoalhaven. It is a dairy and agricultural district of great extent, 110 miles south-west of Sydney, with which a large trade is transacted. Two steamers call weekly. The population of the district is about 8000.

KIAMA, in latitude, south, $34^{\circ} 40'$ and longitude, east, $150^{\circ} 52'$, is a sea-port town ninety miles south of Sydney. It has a population of about 1500, the district 7500. It is a dairy-farming district, carries on a very large butter trade with Sydney, and exports large quantities of eggs and poultry. The soil is very fertile and good for the production of all cereals. Coal of a fair quality is being raised.

WOLLONGONG is a sea-port town sixty-four miles south of Sydney. Here is a red fixed light, visible ten miles. It is in importance the next town, on the coast, to Newcastle. It is most picturesquely situated, at the base of one of the highest peaks of the Illawarra Range. Its coal, shale, and dairy produce are increasing in production, and it promises to become a place of much importance. The population is 1297, that of the district 5698. Here is a breakwater 450 feet in length. Pigs, poultry, bacon, cheese, and calves are largely exported, and there is daily steam communication with Sydney.

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BOTANY BAY in latitude, south, 34° , and longitude, east, $151^{\circ} 13'$. This is a beautiful bay, south of Sydney Cove. It is an error to suppose that it was ever used as a convict settlement, beyond the fact that, in 1788, as before mentioned, the fleet of convict ships, under convoy of a frigate, cast anchor in the bay; but in a few days the beautiful Cove of Sydney was discovered, which, across country, is but distant eight miles from Botany Bay; whereupon Captain Phillip at once ordered the fleet round to Port Jackson, and there fixed his seat of government.

PORT JACKSON a few miles north of Botany Bay—we were off on 26th July, the fourth day from Adelaide. The entrance is between two perpendicular rocks or cliffs called the North and South Heads; and is, in width, about one mile. These cliffs, in the narrowest part three-quarters of a mile from cliff to cliff, rise precipitously, and against them, at times, lashes the Pacific Ocean, with all its force and fury.

OUTER SOUTH HEAD.—Upon it is a revolving white light, at an elevation of 344 feet, and is seen twenty-five miles. The building is seventy-six feet high, in latitude, south, $33^{\circ} 51' 30''$, and longitude, east, $151^{\circ} 18' 15''$.

THE GAP is a semicircular indentation of the southern cliff, having at a distance the appearance of an entrance, and is midway between the Outer and Inner South Head lighthouses. The Gap Bluff, north of the Gap, rises to 300 feet, and then gradually descends to the Inner South Head. Probably the Gap deceived the captain of the ill-fated *Dunbar*, and led to the catastrophe of the night of the 20th August, 1857, when, it is supposed that, mistaking the Gap for the entrance between the Heads, he sailed the ship of 1000 tons, a favourite passenger ship belonging to Messrs. Dunbar, against the rocks; and next day we in Sydney came to the conclusion that all had perished, as the ship was dashed to pieces; but, two days afterwards, it was discovered that a young German scaman had been thrown up by an immense wave into a cavern on a ledge of rocks; and higher up the cliff he managed to crawl, from which he was rescued by ropes let down to him from above, and by which he was hauled up. Many influential colonists were on board, and all were elated with joy at the early prospect of landing; many to rejoin their dearest relatives—when, suddenly, and with no notice, the captain, passengers, and crew were launched into eternity; and, out of 120 souls, only the sailor escaped to tell the tale.

INNER SOUTH HEAD.—Upon it, at an elevation of seventy feet above high water, is a bright fixed light, called the Hornby Light.

OUTER NORTH HEAD.—The other head, north of the entrance is equally precipitous and rocky. Just inside are the Inner North Head and the Quarantine Ground.

After passing through the Heads which are eight miles from

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Sydney Cove, the harbour, which is deep all the way up, presents a grand scenic effect, look which way one may; and travellers have declared it to be in grandeur second only to Rio de Janeiro. In every direction are sloping hills with trees and shrubs down to the water's edge; as well as winding and romantic bays extensive enough to hold fleets of ships, amongst rocky eminences. Immediately on entering the harbour, to the right is North Harbour, where is Brighton or Manley Beach, a seaside resort to which steamers daily ply; and across a narrow neck of land, a grand view of the surging ocean may be obtained. Facing the entrance is Middle Head and Middle Harbour, meandering hither and thither for two miles in a north-westerly direction. The "Sow and Pigs" is a group of rocks; upon the north-west edge of the shoal are a beacon and lightship, with two fixed lights, seen fifteen miles. On the right, south of Middle Head, are Obelisk Bay, Chowder Bay, Taylor Bay, and Bradley's Head, whilst on the left, immediately opposite those bays and promontories, are, Watson's Bay, Vacluse Bay, Rose Bay, and Double Bay, all along which, on every promontory or hill side, are picturesque villas and cottages *ornée*, surrounded with gardens and shrubberies, imparting a panoramic appearance to the harbour; as do the ships at anchor, here and there, or sailing in or out; and the busy traffic of the steamers and sailing boats adds life to the whole effect. Although the harbour of Port Jackson contains but nine square miles, its reaches and bays have a coast-line of fifty-four miles.

FORT DENISON is north of Garden Island. Hereon is a fixed red light, seen five miles, to guide vessels up the harbour.

As Sydney Cove is approached, on the left are Double Bay and Rush-cutters' Bay; sloping up from which, in the distance, are the beautiful suburbs of Woollaharra and Paddington. Further on is Woolloomooloo Bay and Farm Cove, which bound the botanical gardens. At the point of the peninsula, between Woolloomooloo and Farm Cove, is "Lady Macquarie's Chair," so called.

The harbour in some parts is three miles wide, and in the cove ships drawing eighteen feet water can lie alongside the wharves. Along the water sides are patent slips, dry docks and ship-building yards, stores, mills, and factories; whilst in the rear of these, terrace-like, rise the public buildings, mansions, and houses; and the views from the higher parts of the city are bold and picturesque. To seaward is the harbour of Port Jackson, with its romantic inlets and coves. Sydney is famous for its yachts, and yachting is energetically enjoyed. Certainly the racing ground is most admirably and incomparably situated, so that an immense concourse of people can, for hours, sit down on elevated ground and view the whole race, from the start, all along the course to the goal; and never shall we forget the grand sight of 60,000 persons, in gala costume, assembled on these heights to view the yacht race of January 1855, when

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the prize was a silver trophy three feet high, which cost £300. From the city to the south head is a very pretty drive, the road being lined with villas of much architectural design, surrounded by beautiful gardens. The north shore is a cluster of houses and villas, exactly north of the city, about a mile across—several miles round by land—to which a steamer plies all day. The Government House is a handsome building, beautifully situated in the domain, a park of some extent, and on a promontory which juts out into the harbour. The domain is well timbered, full of carriage-drives, and within ten minutes' walk of the centre of the city. The streets are narrow, but the public buildings and shops are fully equal to those of Melbourne, and there is a great appearance of solid wealth, of no recent growth; such as octogenarians, with carriages and coachmen almost as ancient, drawn along by sleek old animals at a crawling pace; a large number of Hansom cabs—none other—and omnibuses, crowded inside, and outside all along the roof, traverse the roads to the suburbs in quick succession. The new Town Hall is highly ornamental in character, and there are many fine buildings, such as the new Post Office, Custom House, Observatory, Royal Mint, the banks, insurance offices, churches, chapels, and many very handsome shop fronts, decked out with taste, and containing every article of luxury. The University is the handsomest and most imposing building in any of the colonies, and cost about £150,000. It boasts a magnificent hall—in size equal to that of Westminster. It was incorporated in 1851, and is empowered to confer degrees in arts and physic, but not law. It is endowed by an annual income of £5000, and is open to all sects. Like that of Melbourne, the degrees of this University are placed upon an equality with those of similar institutions of Great Britain. Sydney boasts of six parks, extensive botanical gardens; and the population, including the suburbs, is about 120,000.

PARRAMATTA, an important town, is situated on the Parramatta River, about fourteen miles from Sydney, by land, is of great width, and commands most picturesque scenery. In places along its course it is lined with orange groves and peach orchards. In the river is Cockatoo Island, a dépôt for convicts, where some hundreds are confined, employed at stone-breaking.

SYDNEY is distant from Galle 5516 miles, viz.:—To Melbourne, 576; thence to Glenelg, 480; thence to King George's Sound, 1010; thence to Perth, 350; and thence to Galle, 3100. It is 5935 miles from Galle by Torres Straits, viz.:—To Brisbane, 503 miles; thence to Batavia, 3422; thence to Singapore, 520; thence to Galle, 1490 miles.

BATHURST, an important town, situated 144 miles west of Sydney, is 2333 feet above sea level, and surrounded by hills; is the centre of a highly fertile district, and richly auriferous and metalliferous region. In 1871 the city and district had a population of 16,826.

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CHAPTER II.

CONSTITUTION—COUNTIES, &c.—RIVERS—LAKES, &c.— STATISTICS.

CONSTITUTION.—The Governor of New South Wales, Sir Hercules Robinson, is a spirited sportsman, enjoying a salary of £7000 per annum. (For the sake of comparison, we will here notice that Sir Anthony Musgrave, of South Australia, receives £5000; Governor Robinson, of West Australia, £2500; Sir G. F. Bowen, of Victoria, £10,000; Mr. F. A. Weld, of Tasmania, £6500; the Hon. W. W. Cairns, of Queensland, £5124; the Marquis of Normanby, of New Zealand, £4500.) The Legislative Council consists of thirty and not less than twenty-one members nominated by the Crown for life; and the Assembly of seventy-two members, elected by sixty constituencies. The voting qualification—membership or as electors—for this House is practically universal suffrage; and the voting by ballot. The Parliaments are quinquennial; and the Executive consists of a Colonial Secretary, Colonial Treasurer, Minister for Lands, Minister for Mines, Minister for Public Works, Attorney-General, Minister for Justice and Public Instruction, and Postmaster-General.

SUPREME COURT.—The Chief Justice is the Honourable Sir James Martin; the three Puisne Judges—J. F. Hargraves, A. Cheeke, and P. Fawcett.

COUNTIES.—Coast: St. Vincent, Cambden, Cumberland, Northumberland, Gloucester, Macquarie. To the west: Cook, Roxburgh, Westmoreland, Wellington, Bathurst, Hunter, Phillip. South-west: Georgiana, King, Argyle, Murray. North-west: Durham, Brisbane, Bligh. The above contain about 1,000,000 acres, each county being about forty miles in width, and fifty to seventy in length. These twenty are the old counties, and there are ninety-eight new, in all 118 counties.

PASTORAL DISTRICTS.—These number thirteen, and thus subdivide the colony:—At the south-eastern extremity of the colony, Monaro, high table-land, forty to fifty miles from the coast, with an area of 8335 miles; south-west, Murrumbidgee, an area of 26,897 miles, grazing land; north of the Murrumbidgee district, Central Lachlan, 22,800 square miles; Wellington, 16,695 square miles; eastward of the Wellington district, Bligh, 800 square miles, grazing land; north-east, Liverpool Plains, 16,901 square miles; north of Liverpool Plains, Gwydir, 11,075 square miles; eastward of the Gwydir district, New England, 13,100 square miles; east of New England, Macleay, 3180 square miles; north-eastern extremity of the colony, Clarence, 5000 square miles; south-western extremity,

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Darling, 50,000 square miles; north-western extremity, Albert, 60,000 square miles; eastward of the Albert, and in the north, Warrego, 10,000 square miles.

BOUNDARIES OF NEW SOUTH WALES.—See “Area of Australia.”

MOUNTAINS OF NEW SOUTH WALES.—See “Mountains of Australia.”

RIVERS.—Those flowing westward of the Dividing Range drain five-sixths of the colony. The principal are the Darling—with its tributaries, the Gwydir, Namoi, Macquarie, Bogan, and Castlereagh—which drains half the colony, and flows south-westerly. The noble Murrumbidgee flows westerly with its affluents, Yass, Tumut, Adelong, Tarcutta, and the Lachlan. All the above find their way down to the Murray, which, at a point 493 miles from its mouth, enters and flows through South Australia; and after draining, it is said, an area of 270,000 square miles, the Murray debouches through Lake Alexandrina into Encounter Bay, near Adelaide. The principal rivers flowing easterly of the great cordillera into the Pacific are the Shoalhaven, 260 miles; Hawkesbury, 330 miles; Hunter, 300; Hastings; Macleay, 190; Manning, 100; Clarence, 240; Richmond, 120; all noticed by us *en route*.

LAKES.—The principal are Lake George, in the east, twenty-five miles in length by eight in breadth; and Lake Bathurst, with an area of eight square miles. Lake Cawndilla is south-west of Wilcannia, on the Darling. Lake Macquarie is an inlet of the sea, south of Port Hunter, twenty miles long by three wide. Lake Illawarra is also an inlet of the sea, south of Wollongong.

CAVES AND BAYS.—The principal are noticed in consecutive order *en route*.

CLIMATE.—This is highly salubrious. The spring months are September, October, and November; summer, December, January, and February; autumn, March, April, and May; winter, June, July, and August. The mean heat throughout the year is 64°; as the colony extends from latitude, south, 37° to 29°, much variation is experienced, but, although warmer than Victoria it is not so hot as Queensland. The lowest temperature in the shade was in July, 38 and the highest in January, 103°.

STATISTICS OF NEW SOUTH WALES, 1874-5.—From the Registrar-General's report we learn that the population of the colony on 31st December, 1874, was 584,278 souls, viz.: males, 321,447; and females, 262,831.

IMPORTS.—During 1874, the imports amounted to £11,293,739. The value from the United Kingdom, was £4,888,725. From Victoria, seaward, £896,976; and overland, £452,086; from South Australia, £574,421; from Queensland, £2,218,308; from all British Colonies, £5,423,260; from Foreign States, £981,754.

EXPORTS.—During 1874, the exports amounted to £12,345,603. The value to the United Kingdom was £5,737,066. To Victoria,

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seaward, £801,979; overland, £2,812,477. These items consisted of—wool, £2,199,972; live stock, £557,295—the New South Wales wool exported *via* Victoria is not included. To South Australia, seaward, £157,724; overland, £500,044, viz.:—wool, £390,226; and live stock, £99,002. To Queensland, £1,085,965. To Foreign States, £510,314. The public debt stood at £10,516,371. On 31st March, 1875, the live stock numbered—horses, 346,691; horned cattle, 2,856,699; sheep, 22,872,882; pigs, 219,958. The revenue in 1874 amounted to £3,509,966, of which £1,217,401, was raised by taxation; and the expenditure, £2,939,227.

CROWN LANDS ALIENATED.—Up to 1874 the area conditionally purchased under the Free Selection clause covered 6,123,908 acres, year by year increasing, *e.g.*, in 1871, 358,432 acres; in 1872, 749,584; in 1873, 1,391,716; in 1874, 1,586,843. From 1862 to 1874 the deposits of five shillings per acre amounted to £1,530,977; balances due, £4,592,931. In 1873, 278,110 acres were sold at auction; and in 1874, 576,000 acres. 200,000 acres were bought in 1873 and 1874, without competition, at £1 per acre; the same having been previously offered and not bid for at auction. In 1874 the revenue from the sale of Crown lands reached £1,119,929.

During and prior to 1874, of the public estate 16,357,058 acres had been alienated, realising £8,532,244, leaving unalienated 191,642,967 acres. Alluding to this large area yet unsold, "Greville's Sydney Directory" is proud that "this simple fact is sufficient to show how absurd a cry that is which deprecates the expenditure of land revenue for ordinary purposes connected with the government of the country, on the ground that we are parting with our capital and the security for our public debt; as if the security were not enhanced by the waste lands of the colony passing into the hands of those who will turn them to account."

LAND TENURE.—23,310 freeholders of land held each over one acre in extent. There were 7669 leaseholders, and 4152 free and leaseholders. The total number of acres of freeholds was 8,949,879, being an increase on the previous year of 889,379 acres; leaseholds show 3,194,278 acres, being a decrease of 363,754 acres.

Leaseholds in cultivation covered 122,436 acres; a decrease of 6228 acres. Leaseholds enclosed, not cultivated, 1,433,535 acres; a decrease of 421,729 acres. Leaseholds unenclosed, 1,638,307 acres; an increase of 64,204 acres—all as compared with returns of 1873, the totals being—1873, 3,558,031 acres; 1874, 3,194,278 acres; a total decrease of 363,753 acres.

LAND UNDER CULTIVATION.—The total area, in 1874-5 was 464,957 acres, viz.: under wheat, 166,912 acres, which yielded 2,148,394 bushels; oats, 17,973 acres, which yielded 293,135 bushels; barley, 3984 acres; maize, 118,437 acres, which yielded 3,618,436 bushels; other cereals, 1357 acres; potatoes, 13,604 acres, which yielded 38,564 tons; hay, 68,088 acres, which yielded 93,440 tons; vines, 4308 acres, which

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yielded 684,258 gallons wine; green forage, 40,589 acres; other tillage, 29,711 acres.

VINEYARDS.—These covered 4308 acres. 3077 acres were used for wine making, 649 acres for grapes for table use, and 582 acres were unproductive. The quantity of wine made was 684,258 gallons, and 879 tons of table grapes were consumed. Fruit gardens and orchards covered 17,572 acres.

WOOL.—In 1854, 18,976,300 lbs., valued at £1,181,956, were exported. In 1864, 25,827,917 lbs., at £2,294,615. In 1874, 75,156,924 lbs., valued at £5,010,125.

TALLOW.—In 1854, 82,120 cwt., valued at £164,256, were exported. In 1864, 61,056 lbs., at £100,654. In 1874, 63,348 lbs., valued at £99,649.

MORTGAGES.—These on land, during 1874, numbered 1388, and secured £826,703; and 985, securing £551,777, were discharged. Preferent liens executed on wool amounted to £423,164, and the number of sheep thus hypothecated was 2,959,892; 2,277,567 sheep, 15,224 horned cattle, and 6019 horses, were mortgaged for £1,962,313; 329 liens on growing crops secured £13,336.

RAILWAYS, TELEGRAPHS, ROADS, HARBOURS, &c.—During 1874, £428,455 was expended on railways; those in course of construction having cost £2,144,131; the cost of those finished having been £5,115,760. On telegraph lines, 7449 miles, at work, £19,768 was expended; and on those unfinished, 426 miles, £10,351. On roads and bridges, £253,000 was expended; on harbours and rivers, £137,750; and on public buildings, £118,629. In 1874, 401½ miles of rails were open, and 285½ were in course of construction.

POST OFFICES.—681 offices, employing 654 hands, in 1874 sent forward 11,120,100 letters; newspapers despatched amounted to 1,902,000. The income was £103,921, and the expenditure £163,319.

ELECTRIC TELEGRAPH.—In 1874, 569,001 telegrams were despatched from the various stations, over 7449 miles of wire. The income being £59,820.

SCHOOLS.—In 1874, 1547 schools educated 119,133 scholars. In 1871, one-fourth of the population were between five and fifteen years of age, and eighty-three per cent. were receiving instruction.

TONNAGE OF SHIPS.—In 1874, 2217 vessels of 1,016,369 tons entered inwards, and 2168 of 974,525 tons entered outwards.

IMMIGRATION.—In 1874, 29,756 immigrants arrived in—the immigrant expenditure being £18,190—and 19,279 emigrants departed from the colony.

MANUFACTORIES.—**MORT'S FREEZING WORKS.**—These are situated on the margin of Sydney harbour, and are connected by rail with extensive killing establishments at Bowenfels, 100 miles inland. Mr. Mort has expended £100,000 in perfecting his patented process, by which he believes he can now transport all over the world whole

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carcases of animals, and that on arrival at destination they shall be as fresh as when the animal was killed. He is already transporting frozen milk most successfully, and the large joints he has sent to Melbourne have arrived in the prime order.

SUGAR MILLS.—Extensive works have been established on the Clarence River, which crush for the sugar planters in the locality. The industry is but slightly developed as yet, but 14,000,000 cwts. were produced, and 6000 tons were sent to Sydney; where a wealthy sugar refinery company have extensive works and produce the brightest and most highly refined sugars.

MORT'S DOCK AND ENGINEERING COMPANY.—This has cost over £150,000, and employs 700 hands. Every description of work can be turned out; *e.g.*, a steamship of 500 tons was constructed and fitted out here for the Queensland Government. The workshops of the Company cover many acres, as do those of P. N. Russell and Co., almost equally extensive. These, and other establishments, each employ 100, 200, or 300 hands, and now turn out railway rolling stock. Factories of every description, such as agricultural implement makers, coachbuilders, tanners, boot and clothing factories, and others, numbering, in 1873, 2288, are in full work; and many others would arise, did not a dearth of labour always prevail, as is the case in the other Australian colonies.

TARIFF.—Altogether seventy-eight items are dutiable, which include most articles of luxury and necessity, but the *ad valorem* duties have been abolished. The Government appears determined to proceed further in the direction of free trade; it proposes that only thirty-five articles shall be dutiable, and that no vexatious duties shall hamper commerce.

CHAPTER III.

GOLDFIELDS—COAL MINES, &C.—RAILWAYS—CALIFORNIAN AND TORRES' STRAITS MAIL ROUTES.

GOLDFIELDS.—The quantity of gold received by escort from the several goldfields was, from the western—Mudgee and Gulgong, Greenfell and Parkes, Tambaroora, and Bathurst, 192,066 ounces = £737,718; from the southern fields, Adelong and Braidwood, &c., 42,881 ounces = £164,275; from the north, 8751 ounces = £32,405; in all, 243,518 ounces, valued at £934,398—the value of the gold ranging from £3 5s. 11d. to £3 19s. 3d.

COAL MINES.—The return of coal mines shows that, in 1874, thirty collieries produced 1,304,567 tons of coal, valued at £790,224, which gives an average of about twelve shillings per ton. This is

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an increase on the returns of 1873 of 111,706 tons, and of £124,478; and that the average price per ton was tenpence higher. The largest quantity from a mine was from the Newcastle Wallsend, 240,000 tons. The Newcastle collieries yielded 1,038,042 tons; the Hartley mines, 72,433; the southern collieries in the Wollongong District, 137,362 tons. The quantity of coal exported was 872,980 tons, valued at £632,347, an increase of 99,901 tons, as compared with 1873. The principal consumers for the article were—Victoria, 228,128 tons; United States, 148,514 tons; New Zealand, 132,141 tons; South Australia, 88,301 tons; Hong Kong, 56,724 tons; China, 51,352 tons; Java, 23,872 tons; Singapore, 23,044 tons.

COAL DEPOSITS.—The *Coalfields' Examiner* officially estimates this area to be ten millions acres; and that one seam alone, providing, as is supposed, it extend throughout the same, is capable of supplying the present demands of Great Britain for 750 years. Coal leases are granted for fourteen years only, but renewable up to 320 acres, at an annual rental of five shillings per acre; and the lessee must expend £5 per acre during the first three years. Mineral leases (other than gold and coal) must not exceed eighty acres.

IRON MINES.—In the district of Berrima, the Brereton Company raised 1000 tons, and the Fitzroy, 150.

COPPER.—One mine raised 150 tons monthly; and, in addition, 3336 tons of copper were produced.

TIN.—2059 tons were produced in 1874, exhibiting a falling off of 1001 tons, as compared with the returns of 1873.

SHALE.—12,100 tons were raised; a decrease of 5700 tons.

Each Australian colony has its own peculiar resources richer than her neighbour; all having grazing capabilities; no colony is the wealthiest in every mineral. Victoria is the richest gold-producing colony; South Australia the richest copper region; West Australia is shipping lead ore, which, combined with silver, exists in inexhaustible quantities, and covers an area of 5000 square miles; Queensland produces in abundance gold, copper, and tin; as does New South Wales, which, in addition, has inexhaustible deposits of the finest coal; but Tasmania promises to become the richest tin-producing colony.

Should not New South Wales attract some of the surplus capital and population of Europe? Men with small capital can take up land at £1 per acre, on three years' credit without interest, and they can hold their capital with which to stock and farm it. If disposed, they can select—paying no royalty—and obtain leases of mineral lands at a small annual rental, retaining their capital to work the mines.

MINERS' RIGHTS, QUARTZ CLAIMS, &c.—A miner must hold a miner's right, and annually pay 10s. In 1874, 14,743 miners' rights were issued. A quartz claim is thirty feet along the

reef by 100 feet in width. An alluvial claim is eighty feet by eighty feet to each man of four in a party. Thirty feet frontage is allowed on a river. Leases on abandoned alluvial ground are granted for fifteen years, up to twenty-five acres at £1 per acre; or up to 1000 yards of a river-bed at £1 per 100 yards. Under various regulations, leases for fifteen years of quartz reefs are granted at an annual rental of £4 for two acres; and up to £100 for fifty acres. The escort fee is 8d. per ounce; the export duty 1s. 6d. per ounce.

RAILWAYS.—The Great Western Line is to proceed past Bathurst, 144 miles west of Sydney, and on to Orange, 180 miles west of Sydney. It passes Parramatta, at fourteen miles, Penrith at thirty-four, Blue Mountains at fifty-eight miles, here risen 2399 feet; Weatherboard, at sixty-two miles, 2856 feet; Clarence Siding, at eighty-eight miles, risen 3445 feet; gradually descending past Macquarie Plains, at 135 miles, 2475 feet above sea level; and Kelso, the terminus, is reached at 143 miles from Sydney.

The Great Southern Line runs from Parramatta, past Liverpool, twenty-two miles from Sydney; Campbelltown, thirty-four; Picton Lagoons, fifty-nine; Sutton Forest, eighty-six; Carrick, 122; Goulburn, 134; Breadalbane, 149; Gunning, 165 miles from Sydney. This line is being continued to Yass, and on to Wagga Wagga.

From Parramatta a branch line runs to Richmond, thirty-eight miles from Sydney.

The Great Northern Line commences at Newcastle, passes East Maitland at eighteen miles from Newcastle, West Maitland at twenty—and here a line branches off to Morpeth, six miles distant—Singleton at forty-nine, Camberwell at sixty-two, Muswellbrook at eighty, Scone at ninety, Park at 101, Murrurundi at 120 miles.

THE ZIG-ZAG RAILWAY.—Proceeding by the Great Western Railway from Parramatta, past Penrith, the River Nepean is crossed over a tubular iron bridge. Here are extensive plains and fine grazing country. The Blue Mountains are visible in the distance stretching away north and south, and the line may be seen ascending precipitous rocks; and along a viaduct across Knapsack Gully is a single line, rising one in thirty. The height of the viaduct to the level of the rails is 126 feet, and the length is 388 feet. The train ascends by a zig-zag. Proceeding in one direction a short distance, the train is reversed and then it proceeds in the opposite direction; stops, is again reversed; and so on, zig-zag all the way up, gradually rising higher until an altitude of 700 feet is attained. Arrived on the mountains, below you observe the zig-zag line, terrace upon terrace, by which you have ascended. The *Tourists' Handbook* says:—"Fairly on the mountains, the altered climate, and crisp, bracing atmosphere, is at once felt, and you begin to breathe in more bountifully the oxygen of life. The panorama that opens to view as the ascent of the zig-zag is made,

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is simply magnificent. To the eastward, many hundreds of feet below, lie the rich and expansive alluvial plains and valleys of the Nepean and Hawkesbury. The former river may be seen meandering along like a silver thread; whilst there is an uninterrupted view of the whole country between the mountain chain and the coast. The line follows the sinuosities of the dividing range along deep gullies, and almost impassable ravines, sometimes with perpendicular walls many hundred feet high, lying to the right and to the left." The line extends thus for about fifty miles, the curves often being very sharp, but "*each turn of the road,*" as Mr. Trollope remarks, "opening up fresh scenes more gorgeous than the last; lovely valleys, thousands of feet deep, hedged in with mountains on every side, the whole clothed in verdure varying from the lightest to the deepest shade of green, here and there relieved by water-falls; and then we descend the mountains as rapidly as we ascended them—again in a zig-zag direction—the track being laid down the sides of the descent like the terrace of a garden."

PRINCIPAL UP-COUNTRY TOWNS.—Our sparse limits preclude us from even affording a cursory glance at over 800 townships, and we will mention but a few:—Parramatta, fourteen miles from Sydney, up the Parramatta River. Windsor is thirty-four miles north-west of Sydney; Penrith, thirty-four west; Camden, forty south; Richmond, thirty-eight north-west; Liverpool, twenty-two south-west; Campbelltown, thirty-four south-west; Newcastle, seventy-five north; Maitland, Murrurundi, Muswellbrook, Morpeth, and Singleton, up the Hunter River; Hastings is at Port Macquarie; Tamworth, on the Peel, is 257 north; Grafton is on the Clarence River, 301 miles north; Casino, on the Richmond, 505 north; Armidale is 313 north, 3600 feet above the sea; Tenterfield is 431 north; Maryland, 565 north; Bathurst is 144 west; Mudgee, 168 west; Turon, 184 west; Sofala, 172 west; Goulburn, 134 south-west; Yass, 189 south; Wollongong, sixty-six south; Kiama, ninety-two south; Eden, 283 south; Mittagong, seventy-seven south-west; Forbes, 239; Gundagai, 251 south; Adelong, 267 south; Tumut, 279 south; Wagga Wagga, 315 south-west; Wentworth is 700 miles south-west; Bourke, 598 north-west; Menindie, 850 west; Wilcannia, 583 west; Deniliquin is 488 miles south-west of Sydney.

CALIFORNIAN ROUTE.—A steamer of 3000 tons burthen leaves Sydney every twenty-eight days from Friday, 11th February, 1876, for San Francisco, touching at Port Chalmers, Auckland, Kandavu and Honolulu. The fares are—Sydney to San Francisco, first-class, £40; second-class, £32; Sydney to Auckland, £10, thence to San Francisco, £40 and £30; from Port Chalmers, onwards, £48 and £38; from Kandavu (Fiji,) onwards, £40 and £30; Sydney to Honolulu, first-class, £30; thence to San Francisco, £15 10s.

SAN FRANCISCO to New York a first-class railway ticket is £28 15s.,

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a second, £20 16s. 8d.; and for sleeping accommodation, for one or two persons, £4 9s. 7d. extra is charged, besides cost of seven days' refreshments. Passengers re-book for New York. Trains leave daily at seven a.m., reaching New York at forty minutes past six a.m. on the following day week. Hotels in New York charge about 17s. per day. Steamers leave daily for Liverpool or Southampton. The voyage occupies from ten to twelve days. Fares, £12 to £16.

TORRES' STRAITS ROUTE.—The fare, first-class, from Sydney to Brisbane, is £5; thence to Singapore, £30. A steamer leaves Brisbane every twenty-eight days, from 2nd January, 1876, starting from Sydney at seven a.m. on a Saturday morning. It reaches Brisbane on the following Monday morning, and remains at anchor in Moreton Bay till the following Wednesday. Passengers and mails are brought from Brisbane by steamer. Brisbane is left at four o'clock a.m. on Wednesday morning, and Keppel Bay is reached on Thursday evening. After a delay of about three hours the voyage is resumed. Bowen is reached on Saturday morning, and left the same morning; Townsville is reached the same night, and left about midnight; Somerset is arrived at on the Tuesday following, and departure is taken from it the next day. Batavia is reached on the following Saturday. The steamer leaves the same day for Singapore, where it arrives late on Monday night. The mails and passengers here await the arrival of the P. and O. boat, when they are transferred to her, whence the voyage is continued to Galle.

CHAPTER IV.

CROWN LANDS OCCUPATION ACT—ALIENATION ACT—AMENDED LAND ACT, 1875.

CROWN LANDS OCCUPATION ACT OF 1861.—This divided the pastoral country into first-class settled districts, second-class settled districts, and unsettled districts. Leases for the first-class are annual, and renewable at £2 per annum for every 640 acres. In the second-class and unsettled districts, the leases have a term of five years. These leases are awarded to the highest tenderers, provided that—should a run not be occupied and stocked with not less than 200 head of cattle, or 1000 sheep, within six months, or, in event of its being necessary to provide water by artificial means, within eighteen months—the run shall be forfeited.

TENDERS FOR LEASES must be accompanied by a receipt, showing that twenty-five per cent. of the rent has been deposited in the Treasury; such being credited to the successful, and returned to the unsuccessful tenderer.

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Leases may be extended to ten years for improvements, by artificial means, rendering runs capable of depasturing more sheep.

The purchasers of leases at auction pay down one-fourth of the premium, if any—the balance in three months; the rent being payable yearly in advance. If not bid for, these can be selected at any time at upset. Nearly all the squatting runs are now held at an appraised rent, which exempts them from assessment charges.

NEW RUNS are to contain twenty-five square miles, or such area as would maintain 4000 sheep or 800 head of cattle, but in no case to exceed 100 square miles.

PASTORAL LANDS, never leased, are open to tender at a uniform charge of £10 for rent, and £20 for assessment, per block, and the lease extends from year to year, until the run is appraised, by arbitration; when one rent is charged, and a five years' lease is granted.

FORFEITED or abandoned runs are put up to auction at the upset rental.

HOLDERS OF PURCHASED LAND shall be allowed pre-emptive leases, and can lease, without competition, land adjoining their purchases, to an extent of three times their freehold, at £2 a section of 640 acres, per annum.

Yearly leases of land not otherwise subject to lease may be put up at auction, at an upset price of £1 for every 640 acres.

ALIENATION ACT OF 1861.—The provisions are free selection on all lands not reserved, of any area from forty to 320 acres, at £1 per acre. Twenty-five per cent. to be paid upon application, and balance at any time, after three years, subject to interest at five per cent.—from the third year—until paid. Residence for three years and improvements at the rate of £1 per acre to be made. Conditional selection of mineral lands (other than gold) at £2 per acre; and improvements to be made of £2 per acre. Forfeited conditional purchases to be open for sale by auction; all other lands to be offered for sale at auction in lots not exceeding 320 acres. Land not sold when offered at auction to be open to selection without competition at upset price. The upset price of all lands to be—Town lots, £8; Suburban lots, £2; other lots, £1 per acre.

AMENDED LAND ACT (FROM GREVILLE'S DIRECTORY)—ALIENATION.—The principal provisions of the Act of 1875 are—that land in suburbs or on goldfields may be sold without appraisal; that improvements must be beneficial to the land; that to exercise a pre-emptive right, improvements exceeding £40 must be made; that an applicant for a conditional purchase must be above sixteen years old, and must personally appear when applying; that balances due, with interest accrued, be paid off by annual instalments of not less than one shilling per acre; that dummyism subject the offender to imprisonment with hard labour for not more than two years; and that all contracts be void which are not for the sole and exclusive

benefit and occupation of the selector; that a purchaser can withdraw his application and get back deposit if the Government fail to survey selection within twelve months; that no frontage exceed eighty chains in a direct line; that time for taking possession of selection be extended from one to three months; and abandonment proved to satisfaction of minister after enquiry before a commissioner, to forfeit purchase at any time from date of occupation to end of three years; that original and additional purchases be treated as one area; that commissioners try all questions affecting conditional purchases; that mineral leases be convertible into conditional selections, and additional area be treated as one with original selection; that the maximum area of conditional purchases be increased from 320 to 640 acres; provided that, when the conditions are fulfilled, a further area of 640 acres can be selected, and that any area may be purchased at auction or in virtue of improvements; that the applicant for sale by auction deposit sixpence per acre; that on deposit of £1 per acre, pre-emptive right—in anticipation of intended improvements—can be exercised up to 640 acres; that reserves, not exceeding sixty acres, may be made for the use of pastoral or agricultural associations.

OCCUPATION.—That reserves for water supply do not withdraw land from existing leases; that, on conditional purchase, three times the area of such selection adjoining be withdrawn from lease only on application of free selector for such area; that improvements which would bar conditional purchase—bar pre-emptive right of selector; that upset price of leases put up to auction may be raised above £1 a selection; that special leases of lands, not exceeding 200 acres, be granted for various useful industrial works; that reserves be made for the preservation and growth of timber; that pastoral tenant be allowed to remove improvements from land taken up or leased under conditional purchase; that Government may survey boundaries of rivers at cost of lessees.

CHAPTER V.

FROM SYDNEY TO POINT DANGER.

BROKEN BAY, into which the Hawkesbury flows, is in latitude, south, 33° 35', and longitude, east, 151° 20', a few miles north of Sydney, at entrance of the Hawkesbury River. Here are two fixed lights, east south-east and west north-west from each other, seen eight miles off. It is an old established agricultural district.

LAKE MACQUARIE is a little to the south of Port Hunter. It is an inlet of the sea, twenty miles long, by three miles wide.

PORT HUNTER situated in latitude, south, 32° 55', and longitude, east, 151° 49', we reached on 27th July, five days out from Adelaide, and here is the mouth of the River Hunter, and the shipping port of the surrounding colliery districts. At the south side of the entrance

was once a hill, called the "nobbys," this has been cut down, and here is erected a fixed light seen seventeen miles. There are two pairs of leading lights for harbour, red and white. Passing through the entrance on the right or north side is Stockton, where are large smelting works. On the left or south side is a long wharf, upon which are ten steam cranes, each thirty feet high, which cost about £1500 each. By a railway running along the wharf, direct from the coal mines—from two to sixteen miles distant—the coals are brought alongside the ship. A vessel may be detained a day or two awaiting a berth; but the rapidity with which steamers are coaled is astonishing. Perhaps 100 or 200 trucks have, by telegraph, been ordered to be in readiness, and the steamer having been berthed, the engineer inside the crane gets up steam, the crane gradually revolves, boys disconnect the hopper from the under carriage, and attach it to the crane, which thus lifts each time three tons coals. The crane balances the hopper over the hold, the bottom is made to drop and the contents descend. About four or six hours suffice to load 400 tons. Sailing vessels proceed to shoots, fed from the railway. The deposits are inexhaustible and reach far under the sea; perhaps to New Zealand, as some persons theorise.

PRICE OF COALS AT NEWCASTLE.—A recent visitor informs us that the long strike of the miners was adjusted by the appointment of a committee of the colliery owners, and another of the workmen; and it has been agreed that, to the public in future, the standard price for coals of first quality, shall be fourteen shillings per ton; of the second quality, seven shillings and sixpence per ton; of the very small or third quality, five shillings per ton; and that should the price per ton advance one or two shillings to the public, the rate for raising shall be increased threepence per ton for each shilling increase; and should the price fall, then the rate for raising shall be threepence per ton less, for each shilling decrease; and that the price to the public shall not be diminished without approval of, or consultation with the workmen's committee. The mines are chiefly in the hands of English companies; to one, we hear, that £30,000 was sent home for one year's profit.

NEWCASTLE, the second city in New South Wales, is situated seventy-five miles north of Sydney, south of the wharf, on elevated land, rising steeply from the sea, and is considered very healthy. The population is about 8000, the streets are well laid out and clean, and there are many comfortable hotels. Provisions, clothes, revolvers and guns may be had as cheaply as at any other port in Australia. A steamer starts daily at ten a.m. for Sydney, and returns at midnight from Sydney, the voyage occupying eight hours. The Great Northern Railway has its starting point here, and proceeds *via* Maitland, Singleton, Muswellbrook, Scone, to Murrumbidgee, 120 miles.

MAITLAND is situated on the Hunter, about ninety-three miles north of Sydney, in the midst of a most fertile district, which is

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called the granary of New South Wales. Morpeth is at the head of the navigation of the Hunter, four miles from Maitland; and around is a fertile district, and coal abounds. Here, as in Maitland, are several good hotels. Raymond Terrace is on the east bank of the Hunter, distant ninety-two miles north of Sydney. The town is prettily situated on a gentle slope.

We arrived at Newcastle on 27th July—five days out from Adelaide—and on the 28th July, after coaling, we steamed away from Newcastle, at midnight.

PORT STEPHENS.—The *point* is in latitude, south, $32^{\circ} 44' 50''$, and longitude, east, $152^{\circ} 13' 5''$, and hereon is a light revolving, seen sixteen miles, and shows alternately red and white flash.

MANNING RIVER, entrance is in latitude, south, $31^{\circ} 59'$, and longitude, east, $152^{\circ} 36'$. A fixed harbour light, seen ten to twelve miles, is shown from Pilot Station.

PORT MACQUARIE, in latitude, south, $31^{\circ} 25'$, and longitude, east, $152^{\circ} 54'$, is 256 miles north of Sydney. It is picturesquely situated on a promontory at the entrance of the River Hastings. The district is agricultural. The vine, tobacco, and sugar cane, also, are cultivated. There are many sugar mills in operation.

MACLEAY RIVER, in latitude, south, $30^{\circ} 52'$, and longitude, east, $152^{\circ} 30'$, we passed.

CLARENCE RIVER, in latitude, south, $29^{\circ} 26'$, and longitude, east, $153^{\circ} 22'$, we were off. A red fixed harbour light, seen six or eight miles, is shown from Pilot Station.

GRAFTON, in latitude, south, $29^{\circ} 39'$, and longitude, east, $152^{\circ} 57'$, is 301 miles north of Sydney. It is situated thirty-five miles up the Clarence River, which is the largest river in the northern portion of Australia. The river is navigable for vessels of 300 tons for sixty miles from its mouth. Grafton is a very rising town, and possesses fine buildings and wide streets, owing to its rich agricultural lands, sugar lands, and quartz reefs; as also to its contiguity to the New England stanniferous deposits.

RICHMOND RIVER is south of Point Danger, in latitude, south, $28^{\circ} 55'$, and longitude, east, $153^{\circ} 33'$. Large quantities of cedar are exported hence. Two bright fixed lights exhibited from Pilot Station, visible six or eight miles.

TWEED RIVER.—Pilot Station, one light, bright, fixed, visible to seaward, six to eight miles.

POINT DANGER in latitude, south, $28^{\circ} 8'$, and longitude, east, $153^{\circ} 33'$. Here commences the divisional line between Queensland and New South Wales.

Of the above-mentioned rivers in New South Wales, the Hawkesbury, Hunter, Shoalhaven, Clarence, Macleay, Richmond, and Manning are from 120 to 300 miles in length, and the others are under 100; none are navigable more than about sixty or 100 miles from the sea.

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CHAPTER I.

BRISBANE—IPSWICH, &C.—QUEENSLAND DISTRICTS—DRAINAGE OF QUEENSLAND.

ON approaching Queensland from the south the mountains assume a peaked and volcanic shape. They are mostly granitic; sandstone is less prevalent, and the soil is richer. The country south of Moreton Bay for sixty miles is a forest of pines, some very large. The Moreton Bay Pine grows from 100 to 150 feet in height, and is an excellent timber for masts and spars.

THE EASTERN CORDILLERA runs through Queensland, at from sixty to eighty miles from the sea, and has a general elevation of 3000 to 4000 feet.

LOGAN RIVER empties into Moreton Bay, south of the Brisbane.

MORETON BAY, we were off on 30th July, the third day from Newcastle.

CAPE MORETON is in latitude, south, $27^{\circ} 2'$, and longitude, east, $153^{\circ} 29'$. On the north-east part of Moreton Island is a revolving light, seen twenty-six miles. The light shows on all points of the horizon seaward, having intervals of seventy seconds between the highest points; the tower is white.

MORETON BAY is the extensive sheet of water separating Shadbrooke and Moreton Island. It is forty miles long from north to south, and seventeen miles broad.

BRISBANE, the capital of Queensland, is situated up the River Brisbane, twenty-five miles from its junction with Moreton Bay, and is distant 503 miles north of Sydney. The town is divided by the river, which is a noble stream, into North and South Brisbane. The views from the surrounding hills are delightful on all sides. The banks of the river are studded with farms and gardens; and rich vegetation, overhanging the water, renders the scenery, on ascending the river, highly picturesque. According to the census of 1871 the population of Brisbane was 19,413, it is now said to be 25,000. There is, by steamer, bi-weekly communication with Sydney, and periodically with the northern ports. There is ample wharf accommodation. The river is navigable as far up as Ipswich, about fifty miles beyond Brisbane. Brisbane is the seat of government, and the most notice-

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able public buildings are the Parliament Houses, which have cost over £100,000.

IPSWICH is at the head of the navigation of the river, about twenty-five miles west of Brisbane; and is the port, as it were, of the great pastoral district to the westward. The population is about 6000; of the district about 10,000. Here is the starting place of the Southern and Western Railway, which runs to Dalby, 130 miles from Ipswich; at Toowoomba, a line branches off and terminates at Warwick.—Since the above was written, the line from Brisbane to Ipswich has been opened.

GYMPIE is a township 126 miles north of Brisbane, and has become of some importance since the opening up of rich quartz reefs. The population is about 6000, and the yield of gold up to April, 1873, from the locality, amounted to £1,057,963. On 31st December, 1873, the live stock in the district numbered—horses, 1644; cattle, 36,210; sheep, 17,360; pigs, 7041. The reefs are said to be very numerous, and some are yielding richly.

DISTANCES FROM BRISBANE.—To Maryborough, 180; Mitchell Downs, 340; Broomsound, 648; Mackay, 686; Peak Downs, 600; Alice Downs, 700; Ravenswood, 750; Townsville, 886; Marathon, 1040; Burke Town, on Albert, 1460; Cooktown, 1150; Somerset, 1526 miles.

The following distances are from "Slater's Almanac."—Armidale, N.S.W., 358; Ballandean, 216; Beenleigh, 23; Bowen, 632; Bookookoorarah, N.S.W., 212; Bundaberg, 859; Caboolture, 31; Cardwell, 836; Cobb's Camp, 69; Coomera, 39; Combabah, 45; Condamine, 240; Dalby, 155; Eight-mile Plains, 10; The Gap, 184; Gladstone, 312; Glass Houses, 44; Glen Innes, N.S.W., 358; Goodna, 15; Gympie, 126; Ipswich, 25; Logan, 18; Maryborough, 186; Maryland, N.S.W., 196; Mooloolah, 58; Mooroochie, 78; Mulligans, 98; Murrurundi, N.S.W., 485; Nerang Creek, 50; Oakey Creek, 178; Oxley, 9; Petries, 16; Pimpama, 32; Rockhampton, 484; Roma, 330; Stanthorpe, 206; Sydney, 550; Tamworth, N.S.W., 428; Tenterfield, N.S.W., 238; Toowoomba, 103; Traveston, 111; Townsville, 754; Wards, 90; Warwick, 168; Yatala, 24 miles.

QUEENSLAND DISTRICTS.—The colony is divided into thirteen districts. Cape York Peninsula consists of West Cook and East Cook, lying between latitude, south, 10° 37' and 19° 40'. We are informed that, as yet, but few stations have been occupied in these districts.

COOK WEST contains 25,510 square miles, or 16,326,400 acres.

COOK EAST contains 3200 square miles, or 2,048,000 acres.

BURKE DISTRICT, between latitude, south, 16° 30' and 22°, is south of West Cook and west of Kennedy, and contains 7500 square miles, or 4,800,000 acres. In this district are many stations, and it comprehends the most southern portion of the Gulf of Carpentaria; thus West Cook and Burke embrace the whole of the coast line from

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latitude, south, about $17^{\circ} 30'$, along the north-east coast to Cape York, down south along the east coast of the Gulf, along the southern portion, and up to the confines of the Northern Territory ceded to South Australia, viz.:—the 138th meridian of longitude, and then down the same as far as latitude, south, 22° .

KENNEDY DISTRICT, NORTH AND SOUTH, between latitude, south, $17^{\circ} 30'$ and $24^{\circ} 15'$, is north of Port Curtis District. It is largely watered by the Burdekin and its tributaries, and is a very extensive pastoral district. The ports are, Rockingham Bay, Cleveland Bay, Ports Denison and Mackay. The area is 10,200 square miles, or 6,528,000 acres.

PORT CURTIS DISTRICT, between about latitude, south, $21^{\circ} 30'$ and $24^{\circ} 35'$, is north of the Burnett, and stretches away westward into the interior. The area is 14,000 square miles, or 8,960,000 acres. It is very extensively watered by the Fitzroy, to form which the Mackenzie and Dawson conjoin, whilst the Isaacs, the Teresa, Nogoia and Comet are branches of the Mackenzie; and the Calliope empties at Port Curtis. The ports are Rockhampton, Port Curtis and Broadsound.

LEICHHARDT DISTRICT, between about latitude, south, $21^{\circ} 30'$ and $26^{\circ} 30'$, is west of Port Curtis. The principal stream is the Mackenzie, which, with its many creeks and branches as mentioned above, unite to form the Fitzroy, which drains this district, as well as the Port Curtis. Like it, it is an extensive pastoral district.

BURNETT AND WIDE BAY DISTRICT is between latitude, south, $24^{\circ} 30'$ and 27° , and south of the Port Curtis; and between the latter and Moreton District. It is watered by the Kolan, Burnett, Mary, and many streams. The port is Maryborough, on the Mary. The west and south-west are mountainous, and it is a pastoral district. It is well adapted for the growth of sugar, cotton, tobacco, castor-oil and ginger.

MORETON DISTRICT is between latitude, south, $26^{\circ} 30'$ and $28^{\circ} 30'$, and is bounded on the south by New South Wales, the Burnett and Wide Bay on the north, and stretches away to the Dividing Range. The Brisbane and its tributary, the Bremer, reach and empty into Moreton Bay.

DARLING DOWNS DISTRICT, between latitude, south, $26^{\circ} 25'$ and 29° , is an extensive tract of downs on the summit of the Dividing Range, west of the Moreton District. It is the richest pastoral district of the colony, and has a large tract of agricultural land. The principal towns are Condamine, Dalby, Bowenville, Kogan, Leyburn, Goondiwindie, Warwick, Drayton, and Toowoomba. The rivers are the Condamine, Weir, and Moonie. The area is 6000 square miles, or 3,840,000 acres.

MARANOA DISTRICT, between latitude, south, 25° and 29° , is an extensive pastoral district west of the Darling Downs, and south of the Leichardt. It is chiefly downs and table-land. The rivers are

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the Maranoa, Culgoa, Balonne, and Moonie, besides many creeks. The towns are Surat, Roma, and St. George.

MITCHELL DISTRICT, between latitude, south, 21° and 25° , is south of Burke, and west of the Leichardt. It is an extensive pastoral district, very little known. It is watered by the Barcoo, Thompson, Alice, Landsborough, and Cornish Creeks, and numerous creeks and rivulets. Tambo is the township.

WARREGO DISTRICT, between latitude, south, 25° and 29° , is south of the Mitchell, and west of the Maranoa. It is also an extensive pastoral district, but little known. It is watered by the Warrego, the Paroo, and numerous creeks. Charleville is the township.

GREGORY DISTRICT, between latitude, south, $21^{\circ} 30'$ and 29° , is south of Burke, and west of the Mitchell and Warrego, and is an extensive pastoral district, but little known. Numerous creeks traverse it. The Barcoo has become Cooper's Creek, and is dwindling away westerly. Just within the boundary of South Australia, between 27° and 28° of latitude, south, and between longitude, east, $139^{\circ} 30'$ and $140^{\circ} 30'$, Burke, Wills and Gray expired, and King was found by Howitt's party, thus rendering Cooper's Creek ever tragically memorable.

LANDS LEASED FOR PASTORAL PURPOSES, on 31st December, 1874:—In the settled districts, 213 runs, containing 7,725,479 acres; and in the unsettled districts, 3544 runs, containing 150,646,710 acres—were leased.

RIVERS OF QUEENSLAND AND THEIR DRAINAGE.—Along the east coast of Queensland, at about twenty-five to 200 miles from the coast, is a range of mountains and transverse spurs, a continuation of the Australian Alps—therefrom the streams flow: easterly, to the Pacific; northerly, to Carpentaria; westerly they are lost in sand; and southerly, to the Darling, which drains also a large part of New South Wales.

EASTERLY, the Burdekin and its tributaries drain a very large area: North and South Kennedy. Also the Fitzroy and its tributaries drain another large area: the middle portion, viz., the Leichardt and Port Curtis Districts. The Burnett and the Mary drain the Wide Bay District. The Logan and the Brisbane, with its tributary Bremer, drain the Moreton and southern portion.

NORTH OF THE COLONY.—The rivers Staaten, Mitchell, Gilbert, Norman, Flinders, Leichardt, and Albert, with all their tributaries and affluents, flow into the Gulf. At flood-time these insignificant rivers become torrents of vast widths.

THE WESTERN FALL loses itself in sand. The Barcoo, supposed once by Sir Thomas Mitchell to be such a noble river, rising near Tambo, receives the Alice, Landsborough, and Thomson, dwindles away toward Cooper's Creek, and loses itself towards Lake Eyre, in South Australia.

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SOUTHERLY, the Condamine, rising about sixty miles from Brisbane, drains the Darling Downs District, then becomes the Balonne; and after receiving the Maranoa, Culgoa, and Bokhara, forms the heads of the Darling above Fort Bourke; as does the McIntyre, carrying with it the Dumaresque, the Moonie, and the Weir. The Warrego and Paroo, at times, overflow into the Darling.

CHAPTER II.

DARLING DOWNS TOWNSHIPS—A VISIT TO DARLING DOWNS— THE GREAT WESTERN DOWNS.

TOOWOOMBA, 100 miles west of Brisbane, is the principal town of the Downs, and is on the line of railway, seventy-eight miles from Ipswich, to Dalby. It is on the summit of the Dividing Range, 1950 feet above the sea. The climate of the Downs is the finest in Queensland; and the cool south-east breezes blow seven months out of the twelve. The population is about 3628. In this district, and in that of Drayton, on 31st December, 1873, the stock numbered—horses, 6129; cattle, 21,172; sheep, 1,068,192; and pigs, 4616. Drayton is four miles from Toowoomba. The population is about 792.

DALBY is 152 miles north-west of Brisbane, the present terminus of the railway, and is the place from which will start the railway projected to cross the continent to Normanton, and the present line is to be continued to Roma. On the 31st December, 1873, the stock of the district numbered—horses, 3321; cattle, 19,210; sheep, 519,403; and pigs, 708. The population of the town is about 1647; of the district about 2050.

LEYBURN is 207 miles south-west of Brisbane. On 31st December, 1873, the stock of the district numbered—horses, 873; cattle, 9258; sheep, 194,274; and pigs, 77.

STANTHORPE is 203 miles south-west of Brisbane, and thirty-eight by coach-road from Warwick, which, by railway, is 143 miles from Ipswich, thence by coach-road being twenty-five miles to Brisbane. On the 31st December, 1873, the stock of the district numbered—horses, 1726; cattle, 13,874; sheep, 123,820; and pigs, 598. This is a township of about 4000 persons, which has arisen in consequence of the discovery in the locality of immense stanniferous deposits, said by Mr. Gregory to cover 550 square miles.

WARWICK is a township on the Condamine River, 165 miles south-west of Brisbane. On the Condamine exist extensive fossiliferous deposits. Warwick is the terminus of the Southern and

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Western Railway. The population, in 1871, was about 3000; and the stock returns (including Allora,) on 31st December, 1873, were—horses, 5462; cattle, 21,137; sheep, 401,601; and pigs, 2931. The mineral resources are being steadily developed—gold and copper, as well as tin. It is thirty-eight miles by coach-road to Stanthorpe, the capital of the tin mining district.

CONDAMINE is a small township on the River Condamine. It is distant 228 miles north-west of Brisbane, ninety-two miles east of Roma, and seventy-six north-west of Dalby, the railway terminus. The population, in 1871, was 203; and on 31st December, 1873, the stock returns of the district were—horses, 783; cattle, 6096; sheep, 962,381; and pigs, 121.

MARANOA TOWNSHIPS.—**ROMA**, a small township on Bungill Creek, is 310 miles north-west of Brisbane, and 158 from Dalby, the railway terminus. The population, in 1871, was 841; and on 31st December, 1873, the stock returns were—horses, 3470; cattle, 35,242; sheep, 620,942; and pigs, 933.

SURAT is about 360 miles north-west of Brisbane, fifty miles south of Roma, and eighty-nine north-east of St. George. In 1871, the population was 108; and on 31st December, 1873, the stock returns were—horses, 1126; cattle, 16,179; sheep, 99,111; and pigs, 1208. Surat is situated on a noble river, the Balonne.

ST. GEORGE is a township on the Balonne River, near to the Maranoa, about 419 miles west of Brisbane; eighty-nine south-west of Surat; 267 south-west of Dalby—the railway terminus; 225 east of Cunnamulla, on the Warrego; and ninety-eight north-east of Curriwillinghami, on the borders of New South Wales. In 1871 the population was 147; and on 31st December, 1873, the stock returns of the district were—horses, 3855; cattle, 74,173; sheep, 129,673; and pigs, 336. Curriwillinghami is about ninety-six miles north of Walgett post-office, New South Wales, at the junction of the Namoi and Barwon, then termed the Upper Darling—450 miles by land north-west of Sydney.

WARREGO RIVER.—Charleville, on the Warrego, is an exclusively pastoral district about 499 miles north-west of Brisbane. In 1871 the population was but fifty-eight; and on 31st December, 1873, the stock returns were—horses, 1005; cattle, 21,485; sheep, 441,365; and pigs, 588.

CUNNAMULLA, south of Charleville. On the 31st December, 1873, the district stock returns were—horses, 3809; cattle, 125,088; sheep, 38,960; and pigs, 107.

BARCOO RIVER.—**TAMBO** is a small township on the Barcoo, about 655 miles north-west of Brisbane, 156 miles north of Charleville. On 31st December, 1873, the stock returns were—horses, 409; cattle, 6469; sheep, 69,400; and pigs, 70.

BLACKALL is a township on the Barcoo, about 670 miles north-west of Brisbane—north of Tambo—and 241 west of Springsure.

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On 31st December, 1873, the stock returns of the district were—horses, 959; cattle, 11,000; sheep, 266,774; and pigs, 102.

VISIT TO THE DARLING DOWNS.—The following interesting account of a visit to the Darling Downs is from the pen of Mr. H. R. Nicholls, of Ballarat, upon the occasion of the members of the expedition to see, or rather not to see, the eclipse of the sun—the trip we shall notice elsewhere—becoming the guests of the Queensland Government, and when they were so hospitably entertained, fed, lodged, and conveyed all over the colony free of expense. Mr. Nicholls' description of the narrow-gauge line of railway, with the sharpest curves, and steep ascents—to an altitude, in places, of 2300 feet—is not only instructive, but very entertaining, and we quote it condensed as follows:—

“The Southern and Western Railway of Queensland seems to have been constructed to open up the large extent of rich country which is known as ‘the Downs,’ and which extends to a great distance. These Downs are at a considerable height above the sea level, so that the climate is much cooler than in Brisbane, whilst wheat and other cereals can be more profitably grown. The Downs are also very favourable to pastoral pursuits, so favourable that settlement is said to have extended some 600 miles to the west, indeed as far as Cooper's Creek. The railway runs nearly west to Toowoomba, thence more northerly to Dalby, with a southern branch, almost parallel with the coast, to Warwick, on the Condamine River. Warwick is about one hundred and forty miles by the railroad from Ipswich. To reach Toowoomba a great dividing range has to be crossed, in some places at a height of 2300 feet, which separates the eastern from the western waters. On the eastern side of the range, which runs in some places within fifty miles of the coast, the streams flow into the sea, but on the western side they form a portion of that great river system of which the Murray is the outlet, and flow through thousands of miles of country until they mingle with the ocean at Lake Alexandrina. We saw enough to convince us that the Downs are likely to become the abode of a large and prosperous population, for the soil is rich and the climate is far more pleasant than along the coast. The Queensland Government, by offering very liberal terms to settlers, has tried to attract a large agricultural population. In our hasty journey to Warwick and back we had, of course, but a glimpse of the country; but we were sorry to learn that the Downs have been dummied. The result will be that settlement will be retarded for many years. The Downs have the appearance of a vast basaltic plateau. Going over the schistose range, which opens ever and again into splendid picturesque valleys, there seems to be no end to the broken country, when suddenly the train rushes out on to high level land which a mere glance shows to be a basalt formation. What has taken place in Ballarat seems to have happened in Queensland, only on a very much larger scale.

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The basalt has overflowed the ranges and made just such a table-land as that which runs down to the west here. And that land is good. It will grow a'l the products of a temperate climate in abundance, it is well watered, and there is said to be a good average rainfall. It will be some day the very heart of Queensland, sending with strong pulsations life to the extremities, for there is 'room enough for all.' The railway is chiefly remarkable because of its narrow gauge. There are many useful contrivances worthy of a closer consideration than they have yet received by our engineers, for they are, beyond question, of very great utility. The way in which the range is crossed, as an example of one method of doing such a work, is well worth study to those who may have to decide about a line through Gipps Land, and about the sort of carriages and engines which shall be adopted. In Queensland the range is crossed by contouring round the hills, so that a gradual rise is obtained. But, the contrast with our lines is very marked. Here a curve with a radius of fifty chains is considered small enough, as the wheels on rigid axles grind and tear the rails, and quickly wear them out. In Queensland the curves have frequently only a radius of five chains, whilst the gradients are as steep as one in fifty. The difficulty is met, in the first place, by the narrow gauge, but chiefly by the engines and carriages having wheels which can adapt themselves to the curves. The engines are fitted with what is called Bissell's bogie, which may be described as an arrangement by which the two front wheels turn upon a strong pivot, and thus adapt themselves to any curve. The carriages have what are called radial axles, which allow a play of seven inches on each side, thus avoiding the grinding strain and unpleasant sensation which is felt upon the common railway. The engines weigh twenty-five tons when loaded, and their average work is 416 miles per week, which is, of course, far less than they could perform. The rails are light, weighing only about forty pounds to the yard, but they seem to stand well, and the wheels have steel tires. Three of Fairlie's bogie engines were at once condemned. They were too heavy, did not carry enough water, provided no shelter for the engine-driver, and were described to me as being altogether useless. After a run of some twenty miles one of them got off the line, and the whole of them were set aside as being 'no good.' There can be no doubt that the present system works well. The passengers were astonished to find that the train ran round curves bending like a snake without any strain, without noise, and without any oscillation. All was smooth and pleasant. Necessarily, the journey over the range was a slow one, but subsequent experience, and, indeed, the experience of all those connected with the line convinced us that trains could travel on this narrow gauge at a speed of from thirty to forty miles an hour without any danger. The making of this line was, of course, a gigantic job. The line cost about £16,000 a mile, the work in crossing the range being very

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expensive; but there cannot be a doubt that such a line could now be constructed at a much lower rate. The engineer, and others connected with the railway, say that experience has converted them from favourers of the broad gauge into staunch defenders of the narrow. No complaints are made about the line. It is capable of doing ten times the work it now does, it is safe, pleasant to travel upon, and gets over a great natural obstacle in a fashion which I think is worthy of imitation, or at least of very careful investigation. We know that the narrow gauge is a success in Australia, and we might safely assume that a narrow line is cheaper than a broad one, even if we had not facts to guide us. Certainly, now that we are seeking for information, we can hardly do better than learn the views of the engineer of this Queensland line, seeing that he has had abundant experience, and has seen reason to change his opinion."

THE GREAT WESTERN DOWNS OF QUEENSLAND.—Mr. Oscar de Satge, writing to the *Queenslander*, says:—"A visit to the vast tract of beautiful grazing country, lying to the west of Peak Downs, cannot fail to impress one with sanguine expectations as to the future of this portion of the colony. It is not one river, but it is a dozen. You meet those who extol the Aramac and the Thompson; others the Darr or the Diamantina (named after Lady Bowen;) or the Landsborough and the Western River; whilst many tell you that nothing can beat the Downs of the Lower Barcoo and Cooper's Creek, with their tributaries. Be the choice what it may, the fact remains that Queensland, in the country embraced in the watersheds I have named, can boast of a district equal in point of size and fattening properties to Riverina, and superior to it (I can state from observation) in grazing capacity, to the square mile; for the Western or Barcoo River country is a far heavier grassed country than Riverina. It is, besides, far more undulating, and has a better lay, and affords uncommon facilities for watering it, eventually, to its fullest capabilities. As it is now, it is a country wonderfully well watered in comparison to what Peak Downs was in 1862. Peak Downs in that year carried 40,000 sheep; it now grazes about a quarter of a million, and is hardly stocked yet. Make the same estimate of the western country as it is now, and what it will be in ten or twelve years' time, and take into consideration its extent of over fifty times that of Peak Downs, and the deduction is somewhat startling! Capitalists, overstocked Southerners, and small beginners alike—all are turning their thoughts west; and a few good years more are bound to change wonderfully a district formed by nature, climate, and position, to be the very paradise of unhampered squatterdom. One great advantage the western districts will ever possess over the Darling Downs and Peak Downs is, that stock winter well there. You see west, neither poor, hairy-coated horses, lean cattle, nor weak sheep; the grass remains succulent in winter, and the

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half-dozen or more varieties of the salt bush afford a continual alternative for every description of stock. Under such circumstances, and they are not exaggerated, our Government should make no mistake in its plans of improved communication between the coast and this mine of future wealth and prosperity. The cost of carriage and difficulties of communication have naturally induced most of the beginners west to decline the heavy expenses of sheep—and stock up with cattle; but I predict that with the railway once to the Mackenzie, and a road made thence west, holders of western country will rapidly change to sheep, as the country there seems from its extraordinary variety of tender and toothless herbs and grasses especially adapted for sheep breeding and fattening; although, in point of wool-growing, it may not equal the eastern districts. On the Barcoo old stock stand a chance; in our district and the Darling Downs they have none. As far as the public knows we are bound, if Mr. Ballard gets proper assistance in men and plant, to have our northern railway extension within three, or at the latest, four years, to Lurline, or within about 240 miles of a point due west, where the western waters of the Alice can be struck. We shall then have only that distance, and that without a single natural obstacle (the Mackenzie once crossed,) or a hill of a hundred feet high between railway communication and this vast tract of first-class country. If railways can in Australia be made for £4000 a mile, they can be made at that price to cross between the Mackenzie and the Alice; and we have for a million sterling, quick, cheap, and certain communication to a district equal in grazing extent to the whole colony of Victoria. Surely, in this instance, the game is worth the candle. If the Government decide to make branch lines to Clermont and Springsure, they will depart from the integrity of a wise plan of tapping, as soon as possible, this vast interior; and retard by five years at least the perfect success of the districts I have named. A direct line west, from the terminus at present decided upon, to a central point between Tambo and Marathon, is obviously the wisest and most economical plan, and to this important end the Minister for Works should devote his attention. The line extended west from the Mackenzie would pass within forty or fifty miles of Clermont, and about the same distance from Springsure; and that surely would satisfy all the wants of our Springsure friends, as well as our own, for some time to come. It would save the colony a line to Clermont, and another to Springsure, with feeding lines of road to both these points, which I have said would retard, for many years, the progress of these great western pastoral districts. The road from Clermont to Marathon, even as it now is, is a singularly good one; the only round-about being that between Copperfield and Surbiton; and that could be avoided by cutting a straight line from Copperfield to a point about six miles north of Surbiton Hill, leaving Peak Vale and Craven well to the

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south. From Surbiton Hill to the Aramac township the road is fairly straight, but wants the attention of the engineer of roads, and that at once to the water supply between Springers and the Friendly Springs on the Aramac. The distance now between Aramac and Clermont is reckoned at 190 miles. That distance can be reduced by about twenty miles and no more. The traffic already on this line warrants attention until the, I hope, not distant day, when the iron horse will make quick work between Rockhampton and the broad plains to the west. The range dividing the eastern from the western waters is one, merely in name—such a contrast to the Great Liverpool Range of the south, and the main range of our Southern Queensland! The so-called desert between Surbiton and the Aramac is all fair cattle country, and all difficulties become trifling bugbears when you burst on the salt bush plains of the Aramac after a long day; and are rewarded by the sight of a country that recalls the Yanko and old overlanding days."

CHAPTER III.

STATISTICS—HOMESTEAD AREAS—CONDITIONAL PURCHASES— MINERAL LEASES—CONSTITUTION—RAILWAYS—CLIMATE, &c.

STATISTICS OF QUEENSLAND.—THE POPULATION of the colony on 31st December, 1874, numbered 163,517 souls, viz. :—Males, 97,860; and females, 65,657. Thus has the population annually increased. In 1861 it stood at 34,367; 1866—96,172; 1871—125,146; 1872—133,553; 1873—146,690.

THE REVENUE, in 1874, amounted to £1,160,947, of which £552,758 was raised by taxation; and the expenditure was £1,121,710. The imports, in 1874, amounted to £2,962,439; and the exports to £4,106,462, of which £1,194,386 was to the United Kingdom; £2,452,321 to New South Wales; £42,636 to Victoria; £27,860 to South Australia.

PUBLIC DEBT.—This on 31st December, 1874, amounted to £5,253,286.

THE LIVE STOCK on 31st December, 1874, numbered :—Horses, 107,507; horned cattle, 1,610,105; sheep, 7,180,792; and pigs, 44,517.

IMMIGRATION.—In 1874, 20,725 immigrants arrived, viz. :—8877 assisted, and 11,848 unassisted; 7794 emigrants departed.

TONNAGE OF SHIPPING.—713 vessels of 302,825 tons entered inward, and 657 vessels of 269,925 tons cleared outward.

CROWN LANDS ALIENATED.—Up to 31st December, 1874, 1,368,470 acres had been granted or sold, and had realised £1,708,945, leaving 432,935,530 acres unalienated, but of which 3,642,128 had been leased upon the deferred payment system.

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LAND UNDER CULTIVATION.—In 1873-4, 64,218 acres were under cultivation, viz.:—Wheat, 3554 acres; oats, 353; barley, 588; maize, 21,140; other cereals, 178. Potatoes, 3069 tons; hay, 5772 tons; green forage, 1894 tons; other tillage, 27,306 acres.

HOMESTEAD AREAS ACT OF 1872.—Mr. Daintree states officially: “Proclaimed areas are open to selection. The limit of the block is 120 acres agricultural land, or 320 of pastoral and agricultural together. If the selection be but eighty acres of agricultural, or 160 of pastoral, the annual rent is 9d. per acre for the first, and 6d. for the second, during the term of five years. But for all land above those respective areas the rent is 1s. 6d. per acre for agricultural, and 9d. for pastoral, for ten years; the additional acreage must bear the proportion of one acre of agricultural to two of pastoral in the same block. After a continuous residence for five years upon a selection not exceeding eighty acres agricultural, or 160 pastoral, and having enclosed the same with a substantial fence; or having cultivated one-tenth of the land, the lessee may obtain a Crown grant.” Again, “Homesteads’ areas are in no case liable to the satisfaction of any debt incurred before the issue of the Crown grant.” The freehold of 160 acres will thus amount in five years to £20, and of eighty acres to £15.

SUGAR AND COFFEE LEASES.—A lease within ten miles of the coast or of a navigable river may be from 320 to 1280 acres; the annual rent for ten years will be 1s. 6d. per acre; but only 640 acre leases can be applied for of the rich sugar lands recently discovered within 100 or 200 miles of Cardwell.

AUCTION.—The upset price of town lots is £8 per acre; suburban, 15s. and 20s.; first-class pastoral, 10s.; second-class, 5s.; one-fifth of the purchase-money must be paid at time of sale, and balance within one month.

SELECTIONS OF LANDS, AND CONDITIONAL PURCHASE.—Agricultural land must be in blocks of forty-eight to 640 acres, at 15s. per acre; first-class pastoral, from eighty to 2560, at 10s. per acre; second-class pastoral, from eighty to 7680, at 5s. per acre. A farm of 640 acres, after ten years, would become a freehold after an annual payment of £48; 2560 acres, after ten annual payments of £128, would be freehold; and 7680 acres, after ten payments of £192, would be freehold lands. The Government afford particulars as to these available lands in the settled districts along the coast. At the end of three years, the balance of the purchase-money can be paid, and Crown grant obtained, after residence for two years by self or servant; and after 10s. per acre has been expended on improvements. A conditional purchaser of pastoral land must prove that, during the three years, he has improved the land at the rate of 10s. per acre for first-class, and 5s. per acre for second-class.

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AURIFEROUS AND MINERAL LANDS.—Leases are granted for eight acres of alluvial ground, 500 yards of a river bed, or 400 yards by 100 on a line of reef. The rent is £5 per acre, £5 per 100 yards of river bed, and £5 per 100 yards of quartz reef. Mineral lands can be purchased for mining purposes other than for gold, at 30s. per acre. The selection must be from twenty to 320 acres; 5s. is to be paid down, and balance within a year; but no grant is given unless £1 per acre has been expended within two years. Mineral leases, from twenty to 320 acres, may extend to ninety-nine years, at an annual rental of 5s. per acre.

GOLD EXPORTED.—In 1874 this amounted to £1,356,071; the total amount since 1868, £5,444,237. The number of miners' rights issued in 1874 was 7350; of which 2643 were issued at the Palmer river; 215 at Cooktown; 1752 at Charters Towers and Cape districts; 517 at the Etheridge; 524 at Ravenswood; 164 at Peak Downs; 76 at Cloncurry; 926 at Gympie.

CONSTITUTION.—The present Governor is the Hon. William Wellington Cairns. The Legislative Council consists of twenty-one members nominated by the Crown for life, and are designated Honourable; the President being elected by themselves. The Legislative Assembly consists of thirty-two members elected by twenty-two constituencies for five years. An elector must be twenty-one years of age, must possess a freehold worth £100, or pay an annual rent of £10; or must hold a pastoral license, or receive a salary of £100 per annum; or he must pay £40 per annum for board and lodging, or £10 for lodging. He must have resided six months in the colony and be naturalised. The Executive consists of a Colonial Secretary, Treasurer, Postmaster-General, Attorney-General, Minister for Lands, and Minister for Public Works.

RAILWAYS.—All the railways are narrow gauge—three feet six inches. The lines open measure 270 miles. The Southern and Western Line runs from Brisbane, and at twenty-three miles and a half distance it passes Ipswich, at an elevation of sixty-five feet above sea level; at forty-three miles, Grandchester, at 274 feet; at forty-seven miles, Victoria Tunnel, at 574 feet; at seventy-one miles, Hebden, at 465 feet; at eighty-one miles, Murphy's Creek, at 788 feet; at ninety-one miles, Highfield, at 1530 feet; at 100 miles, Toowoomba, at 1921 feet; at 142 miles, Clifton, at 1432 feet; and at 165 miles, Warwick, at an elevation of 1498 feet, is reached. From Toowoomba—100 miles from Brisbane—a line runs to Dalby, distant fifty-two miles from Toowoomba.

NORTHERN RAILWAY.—This starts from Rockhampton, which, by sea is, according to Pugh's Almanac, 455 miles distant from Brisbane, viz.:—To Maryborough, 180; to Gladstone, 177; to Rockhampton, ninety-eight miles, north-westerly. From Rockhampton the line runs to Herbert's Creek, distant fifty-three miles,

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the terminus; and eventually the line will reach Peak Downs gold and copper region.

ELECTRIC TELEGRAPH.—From Tenterfield, New South Wales, is 175 miles, north-east—land line; thence to Maryborough, north-east, is 150 miles; thence to Rockhampton, north-west, is 320; to Bowen, north-west, is 350; thence to Townsville, north-west, 115; to Cardwell, north-west, 100; and thence to Normanton—Gulf of Carpentaria—is 480 miles due west. Communication by wire with Cooktown, on the Endeavour River, will soon be effected.

TELEGRAPHIC CHARGES.—Between any two stations in the colony, for ten words—exclusive of name and address—one shilling; and one penny per additional word. To New South Wales, two shillings for ten words; and twopence per additional word. To Victoria, three shillings; and threepence per additional word. To South Australia proper, three shillings; and threepence per additional word. To Port Darwin, for ten words, thirteen shillings; and one shilling and sixpence per additional word. To Tasmania, eight shillings for ten words; and eightpence per additional word.

STEAMBOATS.—For Europe, India, and China, *viâ* Torres Straits and Singapore, a steamer starts every twenty-eight days, from 2nd January, 1876, and is due at Singapore in twenty-four days; the return mail being due at Sydney every twenty-eight days from 31st March. The fare to Singapore is £30. From Brisbane steamers ply to Bowen fortnightly, fare, first-class, £7 10s., steerage, £3 15s.; to Townsville, first-class, £8, steerage, £4; to Cardwell, first-class, £12, steerage, £6; to Cooktown, first-class, £12, steerage, £6; to Gladstone weekly, first-class, £4 10s., steerage, £1 15s.; to Ipswich, daily fare, saloon, four shillings, steerage, two shillings; to Maryborough weekly, fares, £3 and £1 10s.; to Rockhampton, £5 and £2; to Mackay, from Rockhampton weekly, £8 and £4; to Sydney bi-weekly, from Brisbane, saloon, £5, steerage, £2.

POSTAL.—Country letters, not exceeding half-ounce, twopence; overland to Victoria or Sydney, fourpence; by sea, intercolonial letters are charged twopence per half-ounce. To the United Kingdom, *viâ* Torres Straits, California, or by the P. and O. routes, sixpence per half-ounce. Newspapers forwarded within the colony or to the neighbouring colonies are not chargeable with any postage.

TARIFF.—The duty upon many articles is very heavy, *e.g.*, spirits, 12s. per gallon, proof; wine containing more than twenty-five per cent. of alcohol, 10s. per gallon; less than twenty-five per cent, 6s.; ale and beer, in bulk, 9d. per gallon; in bottle, 1s. for six reputed quarts; cigars, 5s. per pound; opium, 20s. per pound; rice, oatmeal, and salt, 40s. per ton; and so on. There is a long list of exemptions; otherwise ten per cent. *ad valorem* is levied upon all unenumerated items.

BOUNDARIES OF QUEENSLAND.—See “Area of Australia.”

MOUNTAINS OF QUEENSLAND.—See “Mountains of Australia.”

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CLIMATE.—In a country embracing 434,304,000 acres, comprehended between seventeen or eighteen degrees of latitude, a variety of climate must be experienced. The interior, to the west, is dry and hot. Along the north-eastern coast it is moist and hot. Brisbane, in latitude, south, $27^{\circ} 25'$, is said to enjoy a most delightful winter and spring. From June to November—the dry season—although very hot in the summer months, no hot winds are experienced. On the high table-lands the temperature is cooler; as a matter of course, the further you proceed north the more prostrating is the weather, as Cooktown, in latitude, south, $15^{\circ} 27' 20''$, has been described to us; but at Townsville, within one day's steam, south of Cooktown, in November, we found the temperature to be most enjoyable. South-east breezes are said to prevail seven months out of twelve. The temperature is more even than that of the other colonies, and fewer colds are caught; so that not infrequently delicate and consumptive persons repair hereto; but from November to March or April a marvellous amount of rain falls, and, like the rivers on the north coast, those on the east coast become of considerable magnitude, compared with which our—at times—noble Murray is but an insignificant stream. Persons residing above latitude, south, 15° , may take fever and ague, but it is not often a fatal complaint; and if a person be well nourished, sober, and does not unnecessarily expose himself to the sun, he need entertain no fear of fever. The mean temperature of Brisbane is said, in 1871, to have been 69° , the highest reading of the thermometer being 139° .

NEWSPAPERS.—In Brisbane a daily morning and an evening paper are published, besides four weeklies; and the principal town in every district boasts of one or more daily or weekly papers, which well represent district interests.

SUPREME COURT.—Chief Justice: His Honour A. J. P. Lutwyche; Puisne Judges: His Honour C. Lilley, and His Honour E. Sheppard.

LIENS AND MORTGAGES (From Pugh's Almanac.)—During 1874 thirty-two liens mortgaged 779,755 fleeces wool, to extent of £105,655; on growing crops fifty-three involved £52,013; 130 liens mortgaged 698,848 sheep, 119,952 cattle, 2750 horses, to extent of £6,420,250; and during 1874 thirty-four liens were satisfied, which released 448,779 sheep, 53,979 cattle, and 783 horses.

LAND UNDER CULTIVATION IN 1874.—This embraced 70,331 acres. 12,108 tons sugar were manufactured, 217,701 gallons rum distilled, and 651,259 gallons molasses were made.

EXPORTS, 1875.—During ten months the principal items were—gold, £1,090,059; wool, 15,966,987 lbs., valued at £1,072,483; tin, £204,341; sugar, £64,988; copper, £99,087; hides, £47,123; tallow, £36,049;—and during the ten months in 1875 thirteen immigrant ships brought 3885 adults to the colony; 150 passengers arrived by other vessels.

THE FUTURE.—With the continued introduction of immigrants,

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and above all, with aid of the patient and industrious Chinese, we believe that the inexhaustible resources of the colony will be developed. No colony has made the same rapid progress as Queensland. From a population in 1861 of 34,367, the number in 1874 had swollen to 163,517. The revenue in 1863 of £295,215, had in 1873 increased to £1,124,107. The value of gold exported in 1860 was £14,576, in 1872, £660,396, and in 1873, £717,540. The flocks and herds are increasing, as are the productions of the soil, such as sugar, cotton, and maize; whilst her vast copper, coal, tin, and other mineral resources have yet to be developed.

CHAPTER IV.

QUEENSLAND RUNS—OCCUPATION OF RUNS—PASTORAL LEASES— RAILWAY TO GULF.

QUEENSLAND RUNS.—To Mr. James Gibson, a squatter who has resided eleven years in the Flinders' district, are we indebted for the following information relative to stations in the north-eastern portion of Queensland. In January, 1875, 12,000 head of cattle were depastured at his station on the Saxby River, which flows into the Flinders, near a remarkable hill called Fort Bowen, which station is 480 miles inland from Townsville and 150 miles from the Gulf of Carpentaria. Besides this station, there are ten others on Flinders' River proper, in the district of Burke, and the total number of cattle on these other ten stations in 1875 did not exceed 30,000; but on the table-land, at the heads of the creeks or Flinders' waters, were four other stations, upon which were about 12,000 head. Cattle in this locality, when fat, command £7 to £8 per head, delivered at the station-yard, but no station-holder will sell store cattle. The only two sheep stations in the district were on the Lower Flinders, and each depastured about 10,000 sheep. The River Flinders debouches into the Gulf of Carpentaria, west of the Norman River, in the southern part of the Gulf. On the various stations, northwards of the Flinders—on the Lynd—were about 25,000 beasts. The Lynd flows into the Mitchell, and the Mitchell debouches into the Gulf. We believe that north of the Lynd district, the only station in 1874, as far as Cape York, was that of the Messrs. Jardine; but several stations are projected, or in course of formation, in direction of the Palmer River, about the Tate and the Walsh; Hahn's explorations having opened up some magnificent country. East of the Flinders, on the Burdekin, are about fifteen stations of importance, which depastured, in 1874, at least 90,000 head of cattle. Hence, north-westwards, were but two small stations, running about 6000 head, on the Cloncurry River.

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The Burdekin is a considerable stream, which was discovered in 1844, by Leichardt, and waters a very large extent of fine country along its valleys fit for pasturage and the growth of sugar, tobacco, and cotton. It empties into the Pacific Ocean, on the north-east coast, about latitude, south, $19^{\circ} 15'$, and longitude, east, $147^{\circ} 50'$. It is navigable for about twenty miles from the mouth, when a bar intervenes. At time of floods, it rushes in torrents miles wide, and the sound of the falls forty miles up can be heard at a distance of five miles.

The soil of the Flinders' district is rich; all plains, upon which is a salsolaceous herbage, highly conducive to fattening cattle. It is but lightly timbered, extending about one mile back from the creeks; and but timber enough to afford the necessary shelter for cattle. On the Lower Flinders it is now difficult to find safe runs, as there is but little undulating country, and the low lands are often flooded. Nearly all the stations are situated easterly from Fort Bowen, towards Port Denison, Cleveland Bay, and Rockingham Bay; and are accessible from these ports.

OCCUPATION OF RUNS IN QUEENSLAND.—These, in size, not less than twenty-five, nor more than one hundred square miles, can be occupied anywhere in the unsettled districts—outside twenty-five miles from the sea,—comprising 597,450 square miles, or 382,368,000 acres. In 1873, 224 runs, covering 8,811,423 acres in the settled districts, and 3072, covering 132,421,030 acres, in the unsettled districts, were leased. Although a station in the unsettled districts cannot exceed 100 square miles; yet two stations can be consolidated into one of 200 square miles, and the cattle can be depastured upon one portion of the whole run. On taking up a run, it is necessary first to stock it with either—for a watered run—twenty head of cattle per square mile, or an equivalent number of sheep—100—i.e., five to every head of cattle. Then it is necessary to make application for a "one year's license to occupy" to the District Commissioner nearest to where the land is situated; and cash for the year's rental must accompany the application, as neither cheques nor notes are taken; after which the Government orders a survey to be made, and charges about six or eight shillings per square mile for the same. But it is usual, as unavailable land, that one-half, or nearly one-half of a run be allowed rent free, the law presuming that about one-half of every run is useless, by reason of floods, scrub, barren ground, or some such cause.

PASTORAL LEASES.—The rental for a year's license is five shillings per square mile; but a license-holder can, before the year's expiry, obtain a lease for twenty-one years, and can, at any time before its termination, apply for a renewal for fourteen years. The rental of a watered run, for first seven years, is five shillings per square mile; from the eighth to fourteenth year, ten shillings; and from fifteenth to twenty-first year, fifteen shillings per square mile.

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During the seventh or fourteenth year, an appraisement of the rent can be made at the option of the Government or the lessee; but in no case can the rent be less than seven, nor more than fifteen shillings. During second term of seven years, and remaining seven years, it will not be less than twelve, nor more than fifteen shillings per square mile. Should two or more persons apply for the same ground, it will be divided, if of any extent; otherwise, the highest bidder—of the applicants—of annual rent will obtain it.

There are two descriptions of runs, "watered" and "unwatered." Unwatered runs are situated five miles, at least, from permanent water, which, Mr. Gibson informs us, has been ruled to mean water that usually lasts from year to year, even although a drought may have occasionally dried it up. An unwatered run can be occupied for one year, at three shillings per square mile for that one year, during which time the license-holder must secure, artificially, a supply of water. Then he must stock the run—after the year—in the usual manner, and apply for a lease, as for a watered run, subject to the same rental per square mile. It is not necessary to stock an unwatered run, during the one year, but the license-holder must make a declaration that no permanent water exists upon the run.

NORTHERN QUEENSLAND PASTURAGE.—Mr. Matthew Murray writing to us, remarks:—"My knowledge of the North of Queensland for stock travelling purposes only extends to the 138th meridian of longitude, and up to this point it is as easy to travel stock as on Keilor Plains; indeed the general features of the two are very much alike, except that there is more timber growing in the Gulf country." Again he replies to our queries as to the line of country proposed to be traversed by the contemplated railway to the Gulf:—"It so happens that, having travelled several times from Dalby to the Flinders River, I am particularly well acquainted with the route which this line would take. The distance is about 1000 miles, and I have no hesitation in stating that the line to Normanton could be formed without a single cutting twenty feet deep in the whole distance; 850 miles of the line is quite as level as Keilor Plains, the other 150 miles is level enough; but would be more expensive in bridges, viaducts, &c. The last 600 miles towards the Gulf is a succession of gently undulating downs; 300 miles of which is but indifferently watered in ordinary seasons, but this is a fault that will very soon disappear. With exception of a patch here and there, there is not a more healthy and fattening country in the Australian colonies."

RAILWAY TO THE GULF.—The *Argus* thus comments on the proposed undertaking:—"From Dalby the line follows the valley of the Condamine to a point near the junction of that river with the Balonne, and thence follows a westerly course until it crosses the Maranoa at 148 degrees east. Here it begins to trend in a north-westerly course, until it enters the only mountain range which is

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defined upon its track. This is near Tambo. It is among these highlands that the waters of the Barcoo take their rise. And the railway runs parallel with that stream until the latter makes a sudden deflection to the south-west, where it is joined by the Alice. The country hereabouts appears to be all taken up as high as the 22nd parallel of south latitude. From the head waters of Landsborough Creek—a degree lower down—the proposed line runs almost due north until it reaches the sources of the Flinders, where sheep and cattle stations begin to reappear; and from this point it curves away to the north-west, until it enters the valley through which the River Norman descends to the sea. The railway runs side by side with this to its terminus in the Gulf. In every sense of the word the undertaking is a magnificent one; and its execution will exercise an important influence on the future of all these colonies.”

CHAPTER V.

FROM BRISBANE TO CAPE BOWLING GREEN—WRECK OF THE “GOTHENBURG.”

WIDE BAY is in latitude, south, $25^{\circ} 50'$, and longitude, east, $153^{\circ} 8'$.

MARYBOROUGH is the port, and is situated up the Mary River, sixty miles from its mouth. It is 160 miles north of Brisbane, is the port of shipment for the produce of the Burnett District, and the centre of an extensive trade in timber. The population of the district is about 8800. In the locality are several sugar plantations. We shall now quote Pugh's distances along the coast.

SANDY CAPE, in latitude, south, $24^{\circ} 41'$, longitude, east, $153^{\circ} 17'$, we passed on 31st July, the fourth day from Sydney; thence we coasted along to Cape York, seldom losing sight of land, and along a perfectly calm sea—taking the inner route, which is the passage between the Great Barrier Reef and the East Coast of Australia. Few persons can realise the anxiety and restless state of mind of a captain navigating this dangerous passage—calm though it be, with exception of the wet season, when typhoons are occasional. Wherever unusual danger exists in the navigation, it is customary to anchor nightly before dusk. In all, four nights, we were compelled to anchor.

BUNDABERG, ninety-two miles north-west of Maryborough, is a new port on the south side of the River Burnett—ten miles from its mouth—which empties north-west of Sandy Cape. In the neighbourhood are many sugar plantations.

KOLAN RIVER flows north-west of the Burnett.

CURTIS CHANNEL, entrance to the inner passage, is eight or ten miles wide in the centre of it.

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SANDY CAPE LIGHTHOUSE—a dioptric light of the first order, attains its greatest brilliancy every two minutes, is visible twenty-six miles.

SANDY CAPE SHOAL is a detached coralline knoll of nine feet, and this danger lies directly in the track of vessels rounding Breaksea Spit.

BREAKSEA SPIT.—North entrance is in latitude, south, $24^{\circ} 24'$, and longitude, east, $153^{\circ} 14'$. It is a dangerous shoal which should not be approached to the southward of latitude, south, $24^{\circ} 23'$, and the western side should be approached with great caution. Between the Spit and Lady Elliott Island is twenty-eight miles.

LADY ELLIOTT ISLAND is in latitude, south, $24^{\circ} 7'$, and longitude, east, $152^{\circ} 45' 30''$. A fourth order dioptric revolving light, with flashes at intervals of half a minute, is on the south-western side of the island, elevated sixty-five feet above high water. Intelligence in December, 1875, was received from Brisbane that—"Capt. Bedwell's recent survey of the coast shows that Lady Elliott's Island, Bunker's and Capricorn Groups, were ascertained to be three miles too far to the eastward of the position laid down in the existing charts. The Rock Cod shoal was found to be nine miles west by south of its assigned position, and several new shoals were discovered in the vicinity of Broad Sound, being of a shifting character." We have likewise heard from newly arrived passengers that the Queensland Government has caused several buoys to be laid and beacons to be erected for guidance of shipmasters, through the Inner Passage.

BUNKER'S GROUP—the south-easternmost island is in latitude, south, $23^{\circ} 54'$, and longitude, $152^{\circ} 26''$.

CAPRICORN CHANNEL is the broadest and shortest entrance to the inner passage from the southward. It passes between the Capricorn Group and the mainland, and its breadth is about sixty miles.

BUSTARD HEAD LIGHTHOUSE, in latitude, south, 24° , a dioptric white light of the second order—fixed, varied by flashes—on the south-east headland of Bustard Head, is elevated 320 feet above level of the sea. Steamers invariably take the inner route, but sailing vessels keep in the open sea, outside Breaksea Spit.

PORT CURTIS is in latitude, south, $23^{\circ} 53'$, and longitude, east, $151^{\circ} 24'$. Gatoomb Head—a fixed light, fifty feet high.

GLADSTONE, the township, is 357 miles north-west of Brisbane and 177 north-west of Maryborough, and had, in 1871, a population of 416, and the district 1534.

CAPE KEPPEL, in latitude, south, $23^{\circ} 26'$, and longitude, east, $151^{\circ} 4'$, we were off on 1st August, after rounding Cape Capricorn.

ROCKHAMPTON is 455 miles north-west of Brisbane, and ninety-eight north-west of Gladstone, and is forty-five miles up the noble river Fitzroy, which discharges into Keppel Bay. It is considered

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the principal town of Northern Queensland, and in 1871 had a population of 6473. It is the starting-place of the Great Northern Railway.

CLERMONT is 240 miles north-west of Rockhampton; and here is the famous Peak Downs Copper Mine, which in five years yielded £1,000,000 worth of metal, and paid £212,250 in dividends.

BROADSOUND, in latitude, south, $21^{\circ} 50'$, and longitude, east, $149^{\circ} 40'$, is 648 miles north-west of Brisbane, and 193 north-west of Rockhampton.

MACKAY, in latitude, south, 21° , and longitude, east, 149° , on the Pioneer River, is 686 miles north-west of Brisbane, and 231 north-west of Rockhampton, and had a population of 729; the district about 4000. There are many sugar and tobacco plantations. We were off this river on 2nd August.

WHITSUNDAY ISLAND, in latitude, south, $20^{\circ} 20'$, and longitude, east, $148^{\circ} 50'$, we passed at mid-day.

PORT DENISON, in latitude, south, $20^{\circ} 4'$, and longitude, east, $148^{\circ} 9'$, we passed. On North Head is a white fixed light, eighty-six feet above sea level.

BOWEN is the seaport, and is situated 780 miles north-west of Brisbane, 325 north-west of Rockhampton, and 710 from Burke Town, on the Albert.

CAPE UPSTART, about latitude, south, $19^{\circ} 40'$, and longitude, east, about $147^{\circ} 48'$, we passed.

WICKHAM RIVER debouches into Upstart Bay; but the Burdekin does not empty hereinto—as Leichardt supposed—but finds its way out by Cape Cleveland.

CAPE BOWLING GREEN projects into the ocean about latitude, south, $19^{\circ} 15'$, and longitude, east, about $147^{\circ} 25'$.

BURDEKIN RIVER enters into the ocean south-west of Cape Bowling Green. Owing to a bar, it is not navigable more than twenty miles up; but it drains an immense tract of country. At high flood it extends in all directions, many miles in width.

“GOTHENBURG” WRECK.—About twenty miles south of Cape Bowling Green is the site of this wreck, which has carried affliction to the homes of so many colonists, and which has resulted in the loss of 102 lives. Having safely passed through all the dangerous, or rather what is considered the most dangerous part of the passage—for, as we know, henceforth on the return voyage no anchoring takes place—it seems incredible how the captain could have got so far out of his course, as he must have seen Cape Bowling Green if he made for it (as is usual) but two hours previously. As to skill, energy, and incessant watchfulness, all who have voyaged with Captain Pearce will bear witness. What, then, can have been the cause of the calamitous mishap, if skill, experience of the identical locality, and vigilance availed not to avert it? It appears possible that a current from some unusual cause—a current, of the extraordinary force of

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which, at flood time, few masters may be aware—deflected the course of the ship on to the Barrier Reef. The *Brisbane Courier* thinks the cause of the disaster may be attributable to the freshes rushing out of the rivers Burdekin and Wickham, which, disemboing west and east of Cape Bowling Green, almost face Flinders' Passage—a gap or break in the Barrier Reef. “Probably the absence at this point of the wall of coral, which elsewhere runs parallel with the coast, is due to the periodical freshening of the waters, resulting from the lavish tribute of the flooded rivers discharging opposite it.” Mr. Putwain, the diver, has been down and secured the box of gold, 2500 ozs., which was on freight, in the captain's cabin. Appalled must he have been to see two ladies standing bolt upright at the foot of the companion stairs—the one with the arm around the other, as if conscious of their danger, and determined to die mutually embracing; or one might have been dispirited, and the other attempting to cheer her. Both had their hair dishevelled, floating around their shoulders, locks off which Putwain would have cut, had the length of his air tube permitted him. Another most melancholy sight met his gaze. In one cabin was a lady kneeling, as though engaged in prayer, and above her, in a bunk, were two children (apparently drowned whilst sleeping) in total unconsciousness of the danger the mother was praying the Almighty might avert from them—but all! all must, in one fell moment, have been swamped by one cruel sea; or the mother would have arisen from her knees and struggled in defence of her sweet innocents. This terrible calamity happened on 24th February, 1875; and the noble liberality of South Australia and Victoria in providing for those left unprotected is worthy of the Australian character, which is pre-eminent for sharpness, quickness, and decision—no shilly-shallying. In a few weeks Adelaide had collected no less than £10,000, and Melbourne £5000, which was equitably divided amongst the sufferers of the respective colonies.

We are all familiar with the sight in the furriers' shops, in Melbourne, of huge pieces of coral, the purest white, blue, and other tints. Captain Flinders was, during his survey of this coast in 1803, wrecked upon one of the chain of coral reefs, and he says:—“It seems to me that when the animalcules which form the coral at the bottom of the ocean cease to live, their structures adhere to each other, by virtue either of the glutinous remains within, or of some property in the sea water, and the interstices being gradually filled up with sand and broken pieces of coral washed by the sea, which also adhere, a mass of rock is at length formed. Future races of these animalcules erect their habitation upon the rising bank, and die, in their turn, to increase, but principally to elevate, this monument of their wonderful labours.”

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CHAPTER VI.

FROM CLEVELAND BAY TO PRINCESS CHARLOTTE BAY.

CLEVELAND BAY, in latitude, south, $19^{\circ} 15'$, and longitude, east, $146^{\circ} 50'$, we were off in the evening of 2nd August.

TOWNSVILLE is the port, 886 miles north-west of Brisbane, and 106 north-west of Bowen. On our return voyage, we were here detained two days. It is an open roadstead; and as the anchorage in shore is rather shallow, we lay off about two miles. Townsville has a population of about 1500 or 2000; and is most picturesquely situated on the slope of a mountain, which rises 1500 feet from the beach. There are many comfortable-looking hotels, banks, stores, and shops; and a weekly newspaper is published here. The place is full of life, and has all the appearance of future prosperity. The town is healthfully situated, as is denoted by the visages of the residents. Over 400 teams are employed in conveying stores to the Ravenswood quartz reefs, seventy-five miles south of Townsville; to Charters Towers, south-west, 100 miles; to the Gilbert, 300 miles north-west; and to the Etheridge, 350 miles north-west.

THE ETHERIDGE, considered by some to be the richest quartz reefing district, is scarcely known to Southerners. It can be reached in 230 miles from Cardwell; but the number and fierceness of the blacks on the line of march renders it more prudent for a small party to take the more circuitous route south-west to Dalrymple, then striking north-west to the 18° of latitude, south.

ROCKINGHAM BAY, in latitude, south, $18^{\circ} 5'$, and longitude, east, $146^{\circ} 20'$, we were off on 3rd August. Cardwell is 968 miles, by sea, north-west of Brisbane, is eighty-two miles north-west of Townsville, and is situated at foot of a range of mountains. There is one street only, facing the beach, and about sixty houses. George Town is 230 miles due west; thence to Normanton, the terminus of the gulf line of telegraph, is 250 miles, also due west. George Town is in the locality of the Etheridge and Gilbert reefs.

HINCHINBROOK Island lies south-east of Cardwell.

MOUREILYAN HARBOUR is in latitude, south, $17^{\circ} 35'$, and longitude, east, $146^{\circ} 9'$ and is forty miles north of Cardwell. Pugh says it is a valuable place of refuge for vessels bound southward, during heavy south-easterly weather. It is large enough for five vessels. It was examined by Captain Moresby, found to be 120 yards in width, and the least depth inside the channel is thirty feet. Steamers can enter at any time. After entering, it deepens to seven, eight, ten, and twelve fathoms; but the greater part is a mud flat, with three, four, and six feet of water at low water.

FRANKLAND ISLES we pass on 3rd August, and we sight the celebrated peak or range, the Bellenden Kerr, 5158 feet high.

FITZROY ISLAND, in latitude, south, 17° , and longitude, east, 146° ;

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we have a close view of. Ships often here take in water from a small stream running down close to the beach. To the very summit of the island the vegetation is superb and tropical. The island is two miles in length, and rises about 900 feet high. We passed between it and Cape Grafton, and at seven p.m. anchored off Hope Island.

TRINITY BAY we are crossing, having heaved anchor at six a.m. this 4th August.

DAINTREE RIVER, in latitude, south, about $16^{\circ} 18'$, and longitude, east, $145^{\circ} 30'$, empties into Trinity Bay, and, as yet, is not laid down upon the charts. Explorers give glowing accounts of the fertility of the land so recently discovered in this locality.

CAPE TRIBULATION, in latitude, south, $16^{\circ} 4'$, and longitude, east, $145^{\circ} 30'$, we sighted, and saw the Peter Botte mountain, which is 3311 feet high.

ENDEAVOUR RIVER, in latitude, south, $15^{\circ} 27' 20''$, and longitude, east, $145^{\circ} 45'$, is 1150 miles north-west of Brisbane; 1625 miles north-west of Sydney; 264 miles north-west of Townsville; 182 miles north-west of Cardwell; and 376 miles south-east of Somerset, Cape York. At this point the breadth of the peninsula, across to the embouchure of the Mitchell into the Gulf of Carpentaria, is but about 230 miles. We are now fourteen days' voyage from Adelaide, eight days from Sydney, and six days from Brisbane; about four days from Somerset, and eight days from Port Darwin.

Mr. Alexander Fyfe, ex gold commissioner at the Upper Camp, has afforded us the following information:—

COOKTOWN is situated at entrance of the Endeavour River, an estuary of the sea, one mile and a half in width and sixteen miles in length. The anchorage is good. At low water it is twenty-two feet in depth, and twenty-six feet at high tide. The town consists of but one street, about three miles long, situated on the side of a hill. The wharfage accommodation is ample; suitable for ordinary large vessels; and here, in 1770, Captain Cook careened his vessel the *Endeavour*; hence the name of the river.

PALMERVILLE is, by the old road, 140 miles north-west of Cooktown, and is called the Lower Camp. At the Normanby River, half-way from Cooktown, is good feed, and a small township. Both the Normanby and Kennedy debouch into Princess Charlotte Bay. The Normanby River is usually about 100 feet wide, but in flood time it may be 600 feet. The Kennedy River is crossed thirty miles before Palmerville is reached. Generally it is about 100 feet wide; in time of flood it may be 800 feet. All the way from Cooktown to the Palmer River there are but a few patches of luxuriant land; and the only indication of tropical vegetation occurs between the crossings of the Laura River, which, on the track, is traversed three times. Hereabouts occurs rich vegetation, and large fig trees are seen; the Leichardt tree, which attains to a height of eighty feet, and has

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a rich dark foliage, affords a great expanse of shade. By following up the bank of the Kennedy, and crossing the Dividing Range, you arrive at the watershed of the Palmer, and the first tract of really auriferous country. The Palmer River is crossed twice before Palmersville is reached, the distance between the crossings being ten miles. An original prospector is entitled to 400 feet along the reef by 600 feet in width; but a prospecting claim on a new reef, inside of two miles from another reef, is allotted 120 feet along the reef by 300 feet in width, and an additional 240 feet along the reef by 300 feet in width, i.e., six men's ground in addition to the prospecting claim—in all, 360 feet. One man is entitled to forty feet along the reef by 300 feet in width; but three men can hold six men's ground. The reefs are generally well-defined, averaging eighteen inches wide, and at present (1875) they are crushing the quartz from the surface, downwards, by aid of a rude sort of dolly. Occasionally two ounces of gold may be obtained from a bucket of quartz. The alluvial country, in 1875, extended over 100 miles from the lower camp at Palmersville; and the whole distance is a wilderness of ranges of decomposed slate and conglomerate. The reefs are cropping out on the tops of the highest ranges. The alluvial is in the gullies and crevices of the slate. Only a spade and a tin dish are requisite to obtain the gold, which is deposited from two inches to two feet from the surface.

There is said to be some magnificent grazing land between the rivers Tait, Walsh, and Mitchell, equal in fact to any in Queensland for cattle.

ROADS TO THE DIGGINGS.—According to Mr. P. Mactavish's map the old road runs westerly, passes two wooded ranges running north and south, two or three thousand feet high—mountainous country, intersected by the Normanby River—skirts the base of the second range, and then runs southerly, to the Palmer River diggings. At a distance of twenty-five miles from Cooktown, the new road skirts the base of the first wooded range, then, without crossing the Normanby, follows a parallel track to the old road, due south, up the Normanby, meeting the old road first described, by crossing due west, through a narrow pass, called the Five-mile Gap, or Hell's Gap. Palmersville is arrived at within 100 miles from Cooktown.

BLOOMFIELD RIVULET is twenty-five miles south of the Endeavour River. Here is abundance of cedar.

NORMANBY RIVER flows into Princess Charlotte Bay, west of the Flinders' Group.

KENNEDY RIVER also flows into Princess Charlotte Bay, west of the Normanby. Both of these rivers are crossed on the road from Cooktown to the Palmer, and hitherto have been unnoticed on the charts.

CAPE BEDFORD, in latitude, south, 15° 17', and longitude, east, 145° 21', we passed this day, 4th August.

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CAPE FLATTERY, in latitude, south, $14^{\circ} 58'$, longitude, east, $145^{\circ} 22'$, we likewise passed.

LIZARD ISLAND is in latitude, south, about $14^{\circ} 42'$, and longitude, east, about $145^{\circ} 30'$. We observed two vessels pearl-fishing.

CAPE MELVILLE is in latitude, south, $14^{\circ} 9'$, and longitude, east, $144^{\circ} 32'$. When within five miles south-east of this cape, in latitude, south, $14^{\circ} 13'$, we suddenly found ourselves aground on a sandbank, hard and fast, and two miles from shore, all our attempts to get her off being fruitless; as it was dusk, and already high water, we anchored, and remained all night in nine feet of water, whilst we drew thirteen and a half.

August 5.—The kedge anchor was taken out, and fetched up a best bower anchor, worth £10—a very old-fashioned article—which showed that another vessel had been in a like predicament. The boats were all day taking soundings, found deep water within length of the ship; and, every tide, we hopelessly essayed to float.

August 6.—The captain having resolved to lighten the vessel—at daylight a raft was constructed, upon which all the deck timber and iron were placed, and floated ashore. This, with three boatloads of coals, had lightened the vessel about sixty-five tons, and at seven p.m., at high water, to our great joy, amidst much cheering and excitement, the indefatigable and unceasing exertions of Captain Pearce were seen to be crowned with success. The *Gothenburg* gradually moved into deep water, and anchored, having been on the bank forty-eight hours.

August 7.—All day was occupied in bringing back the cargo, and re-stowing it, the passengers eating oysters, which abound on the rocks—actually manna in the wilderness.

August 8.—We heaved anchor at six a.m., and rounded Cape Melville.

FLINDERS' GROUP.—We then made for this cluster of islands, in latitude, south, $14^{\circ} 10'$, and longitude, east, $144^{\circ} 18'$.

PRINCESS CHARLOTTE BAY, in latitude, south, $14^{\circ} 20'$, and longitude, east, 144° , we crossed.

Along the coast, all the way from Rockhampton, we have passed innumerable and beautiful islands, bearing every trace of past volcanic action; as did the singular contour of the line of coast.

CHAPTER VII.

FROM CLAREMONT ISLES TO SOMERSET.

SOLAR ECLIPSE EXPEDITION.—Claremont Isles, in latitude, south, $13^{\circ} 52'$, and longitude, east, $143^{\circ} 44'$, we passed, and at seven p.m. anchored off Night Island, about the centre of the line of total Solar Eclipse of 1871, respecting which we will make a brief digression.

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A little south of the spot where we are supposed to be now anchored is Cape Sidmouth, in latitude, south, $13^{\circ} 26'$, and longitude, east, $143^{\circ} 37'$, and nine miles east of the Cape is number six island of the Claremont group, now styled Eclipse Island. The expedition was fitted out at the joint expense of the Australian colonies.

The *Governor Blackall*, steamer, conveyed the members of the expedition to the chosen site, and the chief object was to ascertain what is the nature of that bright light, called the "Corona," which is seen around the sun when totally eclipsed. On the 6th December they landed on the island, in latitude, south, $13^{\circ} 29' 31''$, and having safely deposited their costly instruments, tents, &c., they awaited with the keenest enthusiasm the advent of the day on which they hoped their expectations would be realised. At last the eventful day, the 12th December, broke most unpropitiously, and all were despondent by reason of the torrents of rain, and thunder and lightning, of the previous day, foreboding ill success. The arrangements were most perfect, but after the first contact became visible heavy rain began to fall, and continued during "totality," much to the chagrin of the party. Mr. H. R. Nicholls accompanied the expedition, and subsequently published a very interesting paper in the *Ballarat Star*. In Ceylon the metamorphosis, so unusual, of day to night, induced the fowls to go to roost, and the coloured folk to be much alarmed.

CAPE DIRECTION, in latitude, south, $12^{\circ} 30'$, and longitude, east, $143^{\circ} 33'$, we were off on 9th August. South of this cape is First Red Rocky Point, where Narcisse Pelletier was abandoned after being shipwrecked on a reef of the Louisiade Group, south-east of New Guinea. From a long and interesting narrative in the *Sydney Morning Herald*, we glean that Pelletier was a cabin-boy on the ship *St. Paul*, of Bordeaux, which, in 1858, was wrecked whilst conveying 350 Chinese from China to Australia. Captain, crew, and all reached an island in safety. They repulsed an attack of the blacks, but the captain and crew were equally afraid of the Chinese; so at night they embarked (Pelletier followed them) in a boat, leaving the Chinese to their fate, which was, after being fattened—to be devoured two by two in a most methodical manner by the Louisiade cannibals; until the last sixteen were rescued by a passing ship. The whites in the boat, after encountering great privations and sailing 600 miles, landed on the Australian coast. The captain and crew—poor Pelletier being too weak to follow—re-embarked, as is supposed, for New Caledonia, abandoning the French boy, who was found by the blacks—the Macadamas—kindly treated by them, and with whom he lived seventeen years. On the 11th April, 1875, he was taken off by the crew of the *John Bell*, pearl schooner, and taken to Somerset. When found he was stark naked, like the rest of the tribe; his skin was of a rich red ochre colour; his breasts were adorned with two raised wheals; his

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muscular arms with broad gashes; and in the lobe of his ear was a piece of wood half an inch in diameter, and four inches long. He was unwilling to quit his black friends, fretted, and was uneasy for a fortnight. He had passed his life in fishing and hunting, the monotony of his existence being varied in taking part in an occasional battle with a neighbouring tribe; but he quickly resumed civilised habits, and delighted in reading French novels, the faculty of reading and writing yet remaining to him; and he is said to be a young man of great intelligence.

WEYMOUTH BAY is in latitude, south, $12^{\circ} 30'$, and longitude, east, $143^{\circ} 20'$.

PIPER ISLANDS.—Here we anchored at half-past eight p.m.—a moonlight night—the weather becoming very sultry; yet very agreeable are the moonlight nights.

CAPE GRENVILLE, in latitude, south, $11^{\circ} 56'$, and longitude, east, $142^{\circ} 14'$, we sighted on 10th August.

SHELBOURNE BAY is in latitude, south, $11^{\circ} 50'$, and longitude, east, 143° .

HARDY'S ISLAND is eastward near Raine Island entrance, a gap in the Barrier Reef.

ESCAPE RIVER is in latitude, south, $10^{\circ} 55'$, longitude, east, $142^{\circ} 43'$.

CAPE YORK in latitude, south, $10^{\circ} 37'$, and longitude, east, $142^{\circ} 32'$, we sighted. It is the extremest north-east point of Australia, 1526 miles north-west of Brisbane, and 558 miles north-west of Cardwell. The luminous appearance of the surface of the sea hereabouts is wonderful and curious, and Savans assert that a prodigious quantity of shining insects or animalcules contribute to this phenomenon. Turtles abound throughout the inner passage, and float along asleep. The effulgence of the sea snakes is as clear as though they were moving through the air.

As we approached Cape York and the adjacent islands—Albany and Prince of Wales, and others—the scenery all around, with vegetation truly tropical, opened out most picturesquely—a complete panorama. The promontories and bays are covered with trees and verdure down to the water's edge.

SOMERSET, at entrance of Torres' Straits, is charmingly situated on elevated ground overlooking Albany Straits. It is the most northern portion of Queensland, and is now, in lieu of Booby Island sixty miles distant, the place of refuge for shipwrecked sailors in locality of Torres' Straits. Here are a police magistrate, six water police, and twelve black troopers. A missionary has his head quarters here, and has in training several interesting-looking missionary youths, Samoans—some having families—who occasionally proceed to New Guinea and other islands. On our return voyage we took down to Cleveland Bay Mr. Frank Jardine, and also Mr. Hargreaves, one of the survivors of the ill-fated *Maria*, a vessel purchased jointly by the passengers—many of whom were Ballarat miners—who were well armed and

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equipped, and bound on an expedition to prospect New Guinea for gold. The *Maria* was wrecked five or six years ago near Rockingham Bay. Those who landed on this inhospitable coast were attacked by the natives, and most of them were killed, and eaten. Mr. Hargreaves was one of those who escaped in a boat, pulled for the shore, almost in sight, with intention of sending succour to eight men remaining on board whom the boat could not carry; but, alas! to their unspeakable dismay, they saw these men engulfed with the ship before the boat was out of sight. Not so easy a task was it to reach the shore, for so resistless and strong was the tide and heavy sea, that they had to pull to Bowen, 180 miles distant.

As we lay to in Port Albany admiring the scenery, we depicted to our mind the lonely feeling of poor Jackey Jackey, the faithful black who accompanied Kennedy in his attempt only twenty-eight years ago, to open up a land route hereto from Rockingham Bay, where the expedition had landed. "I said to myself this then is Port Albany," said Jackey Jackey when he ascended a tree and had a view of it. After Kennedy, speared by the blacks, expired in his arms, he made for Port Albany, chased all the way by the blacks. The Rev. J. T. Woods, at page 155 of his work, graphically describes the sad affair, and how Jackey "arrived in the last stage of exhaustion and emaciation. He imagined his life was fast ebbing away." When rowed off to the *Ariel*, which had been waiting for the party, "in feeble accents he was barely able to whisper that Mr. Kennedy had perished, and that the rest of the party, if they still survived, would be found at Pudding Pan Hill, Weymouth Bay." Jackey had cut a jagged spear out of Kennedy's back; he was speared again in the leg, and Jackey received one over the eye; but notwithstanding the spearing of the blacks, the horses kicking and jumping, he carried Kennedy into the bush. He says:—"Then Mr. Kennedy looked this way very bad (Jackey rolling his eyes.) I said to him 'Don't look far away.' He then said 'Jackey give me the paper and I will write.' I gave him pencil and paper and he tried to write and fell back and died. I caught him as he fell. I then turned round and cried. I was crying a good while until I got well." Such has been the adventurous existence of many of our present squatters who have fought for their lives, and prepared the way for the present and future generations.

The water police say that they dare not go 1000 yards from this point without a revolver; and Captain Pearce told us that Mr. Frank Jardine, on two occasions found every one massacred at his out station, but he pursued the murderers, night after night, for a year and a half. Some years ago the Jardines travelled overland to this point with stock, encountering hostile tribes all the way; and, if we are correctly informed, theirs is the only station hereabouts. By Pugh's Almanac for 1876, we observe that in Cook District, which embraces this peninsula, in December, 1874, there-

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were but 332 head of cattle, 360 horses, and 2028 sheep—the district containing 28,710 square miles.

Highly exciting must be the life of a station master on the overland line, cut off for many months from all external communication except by wire. A few months ago an attack was made by blacks on the Barrow Creek Station, when Mr. Stapleton and one lineman were speared and died; the assistant operator and a trooper being wounded. They were taken unawares going to bathe, and had hardly time to retreat to the station, which is built of stone and loop-holed like a fortress. A most affecting sight must it have been to witness the Adelaide doctor prescribing for Mr. Stapleton; whilst the devoted wife in the operating room, Adelaide, listened to the exhortations by wire of her husband—distant 1200 miles, the wire at his very bed side—each bidding an eternal adieu to the other by the click of the instrument.

CHAPTER VIII.

FROM CAPE YORK TO FLINDERS RIVER—QUEENSLAND FOSSILS.

GULF OF CARPENTARIA.—We dared not remain long in Albany Straits, after delivering the mail to the water-police, as a strong breeze was blowing, with a heavy sea on. We, therefore, steamed through the straits, then through Endeavour Straits, between Prince of Wales Island and the mainland of the Peninsula, into the Gulf of Carpentaria. Having thus rounded Cape York we steamed south-westerly across the Gulf.

To the north is NEW GUINEA, 1500 miles long by 300 wide; to the north-west is the EAST INDIAN ARCHIPELAGO; to the south is the northern part of AUSTRALIA, Carpentaria; to the west is PORT ESSINGTON, towards which we are making.

August 10th and 11th.—We are crossing the Gulf towards Cape Arnheim. Cape York Peninsula is east of the Gulf, and is a very large tract of country, in parts highly fertile.

RIVERS FLOWING INTO THE GULF IN COOK DISTRICT.—MITCHELL RIVER debouches into the Gulf in latitude $15^{\circ} 40'$, and longitude, east, $142^{\circ} 10'$, about 150 miles north of Normanton.

PALMER RIVER is supposed to be either the head waters of the Mitchell or an important tributary.

LYND RIVER junctions with the Mitchell, about 100 miles from the mouth of the latter.

TATE RIVER, east of the Lynd, appears to be an affluent of the Mitchell.

WALSH RIVER seems to have some connection with the Tate and the Palmer, and to be an affluent of the Mitchell.

STAATEN RIVER debouches into the Gulf south of the Mitchell.

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GILBERT RIVER flows into the Gulf south of the Staaten.

EINNESLEIGH RIVER is an affluent of the Gilbert.

RIVERS FLOWING INTO THE GULF IN BURKE DISTRICT.—NORMAN RIVER, 455 miles south-west of Cape York, debouches into the Gulf in latitude, south, $17^{\circ} 26'$, and longitude, east, $140^{\circ} 54'$.

NORMANTON is the township which contains about 300 inhabitants. It is about twenty miles from the mouth, but following its sinuosities it is fifty miles. The Queensland wires here terminate. At Normanton is the proposed line of railway from Dalby to terminate.

The Norman mouth is seventy-eight miles west by south from Sweer's Island. The bar lies about one and a half miles from the shore, and northwards of the Bynoe, and has five or six feet of water upon it, according to the monsoon.

THE CLONCURRY is a thriving little township on the Cloncurry River, about 362 miles south-west of Normanton. In this neighbourhood are rich copper fields, as yet scarcely noticed, on account of scarcity of labour and capital, though long discovered. Rich quartz reefs, as well as alluvial, have also been opened.

GEORGE TOWN TO NORMANTON (From Pugh's Almanac).—To the Gilbert Telegraph Station is sixty-four miles; to Sawtell's, thirty-four; to Green's Creek Telegraph Station, fifty-four; to crossing of Norman River, eighty-five; to Normanton Post Office, twelve; in all, 249 miles.

NORMANTON TO CLONCURRY.—To Bynoe Police Camp, sixteen miles; to Sorghum Downs (Walker,) 125; to Clifton, forty; to Conobie (Palmer,) twelve; to Taldora, or Corella (J. Gibson,) twenty-five; to Yerna, or Millungera (J. Gibson & Co.,) forty; to Dalgonaally (D. McIntyre,) twenty-four; to Fort Constantine (Sheaffe,) sixty; to Coppermine Post Office, twenty; in all, 362 miles.

GEORGE TOWN is 230 miles due west of Cardwell, 249 miles east of Normanton, and 350 north-west of Townsville.

FLINDERS' RIVER debouches into the Gulf in latitude, south, $17^{\circ} 28'$, and longitude, east, $140^{\circ} 50'$. It is about seventy miles east of the Albert. This is the river which, in 1861, at a point within fifty miles from its mouth, Burke and Wills reached, and then retraced their steps on their fatal journey.

CRETACEOUS BEDS OF THE FLINDERS.—These are now known to prevail to so great an extent, chiefly to the north-west and west of Queensland, that "Mr. Daintree regards the cretaceous area as 200,000 square miles, or one-third of the colony." Here are the bones of the Enaliosaurus, "a species of fish lizard, twenty feet in length; a Plesiosaurus, forty feet long, was its companion; the eye was five inches in diameter in one of twenty-five feet. The head of the Enaliosaurus was like a crocodile; so were the teeth very numerous, but set in a deep, continuous groove, not in distinct sockets. The eye orbit was very large; and they had four flippers-

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like the paddles of a whale. They consumed fish, as masses of crushed, and apparently half-digested fish bones and scales were found in the abdominal cavity, and from their coprolites, or fossil excrements, it is supposed their intestinal canals were furnished with spiral valves like sharks; it is supposed they were viviparous—bringing forth young alive."

"The Plesiosaurus is an extinct amphibious saurian, remarkable for length of neck, closely allied to the ichthyosaurus. The head was that of a monstrous lizard, with teeth like a crocodile; its neck of enormous length, resembling the body of a serpent, while the trunk and tail had the proportions of an ordinary quadruped, the ribs of a chameleon, and the paddle of a whale."

AMMONITES.—"These are found at the head of the Flinders, and are a genus of fossil shells, allied to the nautilus, and in shape resemble a ram's horn. *Belemnites* are also here found. These are fossil remains of *cephaloids*, allied to the squid and the cuttle fish. The wildest speculations have been advanced to explain their origin, chiefly found in chalk and oolite (limestone) in large numbers, and generally as straight, solid, dart-like stones." To the philosophers the belemnite was a standing puzzle. The author of "Vestiges of Creation" says:—"It is an elongated conical shell, terminating in a point, and having at the larger end a cavity for the residence of the animal, with a series of air chambers below. The animal placed in the upper cavity could raise or depress itself in the water at pleasure, by a pneumatic operation upon the air tube pervading the shell. Its tentacula, sent abroad over the summit of the shell, searched the sea for prey. The creature had an ink bag, with which it could muddle the water around it to protect itself from more powerful animals; and strange to say, this has been found so well preserved, that an artist used it in one instance as a pigment wherewith to delineate the belemnite itself."

QUEENSLAND FOSSILS.—Gigantic animals once traversed the plains in the interior, *e.g.* the *diprotodon*, sixteen feet in length, a marsupial with kangaroo teeth. Its hind legs were like those of a wombat, and Dr. Kreft says it was as bulky as the largest living elephant. He believes that "it stood six feet high at the shoulders, and felled the trees with its great tusks like modern *beaves*." Of corresponding gigantic proportions was another extinct Australian marsupial, the notatherium, "a gigantic kind of kaola, a wombat of the size of an ox, with elephant-like teeth." The *dinornis* was "a terrible bird," as its name denotes; and some writers conclude its presence in New Zealand denotes that "this enormous creature once, doubtless, could travel along the plains formerly uniting these two countries, now separated by the ocean 1200 miles wide." It stood ten or ten and a-half feet high.

Fossil remains of the *Dinornis* have been found in Madagascar. One of its eggs equalled in size 135 hens' eggs, and could

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contain two gallons. This egg, that of the *epiornis*, can be seen at the University Museum, Melbourne, as well as the fossil remains of the diprotodon and dinornis; likewise the head, teeth, and eye, five inches in diameter of orb, of the *ichthyosaurus*, presented by Messrs. Sutherland and Carson, who found them at the head of the Flinders in 1866, up to which time European philosophers did not believe that "fossil evidences of a secondary formation" existed in Australia. Mr. George Urquhart, the well-known squatter, informs us that his son some years ago found on a tributary of the Condamine, a jawbone of a kangaroo two feet nine inches in length. It reposed on the banks of the creek under twelve feet of black soil, surrounded by a limy deposit. As the length of the jawbone of an old man kangaroo of six feet is but eighteen inches in length, the proprietor of that of the Condamine must have stood nearly twenty-five feet high. Unless the hunters and the kangaroo dogs of that generation were of similar proportions, the Australian continent would not have been as safe to roam upon as at present.

CHAPTER IX.

FROM FLINDERS' RIVER TO ALBERT RIVER—DIAMANTINA RIVER GRAZING DISTRICT—NEWLY DISCOVERED RICH COPPER-FIELDS— CLIMATE.

CLONCURRY RIVER flows into the Flinders, south of the Plains of Promise.

DIAMANTINA RIVER DISTRICT.—An *Argus* correspondent, in January, 1876, writes :—"I must not fail to direct your attention to a report of Mr. Crown Lands Commissioner Scarr, on the newly annexed Diamantina River district, in the pastoral district of Gregory. I say newly annexed because, though licenses have been taken out, and though something has lately been done in the way of stocking it with cattle, it is for all practical purposes unoccupied. This magnificent country, as it is now known to be, was crossed by McKinlay in 1862. Landsborough, a later and more elaborate explorer of this country, named it after Lady Bowen, giving it her Christian name. Mr. Scarr's work has consisted in executing a rough survey of the heads of this river. Commencing at a point about 200 miles to the west of Aramac creek—Aramac being about 450 miles west of Rockhampton—he followed down the western river till he met the Diamantina coming from the north-west; then, running up the Diamantina, he connected his survey with two heads of the Cloncurry, the range separating them being that which here divides the northern and southern watershed. Returning in a southeasterly direction he again struck the Diamantina, below its junction with the Western and Middleton creeks. I believe that there is

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plenty of fine country, which is still to be got by those who can take cattle out. Mr. Thomas McIlwraith has lately come in from this country, and describes it as truly magnificent. There is a great want of timber, however."

SAXBY RIVER flows into the Flinders, east of the Cloncurry River.

BOUNTIFUL ISLAND is north-east of Bentinck Island. It is much frequented by flocks of pigeons and sea fowls, and abounds in turtles, so prolific in this archipelago. Landsborough called in here, and in one night caught one hundred, simply by turning them on their backs. He says, "the aborigines of Yorke Peninsula, ingeniously catch them by means of the common *Sucker-polype*. This they attach to a string and allow to sink, when it customarily alights on the back of the first convenient turtle, which is then easily drawn to the surface."

SWEER'S ISLAND, in latitude, south, $17^{\circ} 8'$, and longitude, east, $139^{\circ} 46'$, is the south-easternmost of the Wellesley group, and is five miles long, north by east and south by west, and from one third to one and a quarter miles broad. Inspection Hill at the south extreme of the island, although only 104 feet high, is the most elevated land, and forms a good land mark.

CAERNAVON is the township on Inscription Point, which is of white sand, and forms the western point of Sweer's Island. In 1861, Captain Norman had a *dépôt* on this island, and according to Pugh's almanac, a pilot is here stationed.

INVESTIGATOR ROAD presents the only good anchorage for vessels of all sizes, in either monsoon, at the head of the Gulf of Carpentaria, and forms the port to the township of Caernavon. It is sheltered from prevailing winds to the eastward by Sweer's Island, and northward by Fowler and Bentinck Islands; the reefs and shoal waters of the latter extending across to Sweer's Island. The road is spacious and easy of access, having a broad and clear passage to it, with four to five fathoms in every part. A vessel should anchor three cables westward of Inscription Point.

LEICHARDT RIVER debouches into the Gulf, east of the Albert, between the Leichardt and Cloncurry. Hereabouts Mr. R. H. Sheaffe has lately discovered an extensive and rich copper field. The acting Land Commissioner, reporting to the Government, says that the copper region has a far wider extent than the basin of the Cloncurry River, and he is persuaded that an examination of the hilly country, where rise the Cloncurry, Leichardt, Gregory, and Nicholson Rivers, would bring to light many rich mineral deposits. He adds, that Mr. Sheaffe has brought into town four masses of copper, of the total weight of 1120 lbs., of which one weighed 840 lbs., the other three, 280 lbs. "The largest is a noble specimen; a flake of copper, irregular in form, and nearly resembles a fore-quarter of beef, and measures four feet across; its length is three

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feet eight inches, while it varies in thickness from three to eight inches." It is pure copper, coated on the surface with oxides, and was found on the Dugald River, near Connobee Station. Mr. Sheaffe, in a letter to Mr. Murray—our correspondent—describes two of his copper selections as having "a lode running through them, for an unbroken length of 400 yards, the richest ore being visible on the surface throughout that entire distance, and varying in width from a few feet up to forty feet in one place. The ores, of course, vary very materially in richness, but all are either oxides or carbonates, some of the former—picked pieces—assaying seventy per cent. pure copper; but hundreds of tons of ore, from twenty-five to forty per cent., are exposed on the surface. This lode crosses a little gully, and goes up the side of a hill fully 150 feet high, showing ore almost to the top." On two other selections, distant three miles from the above, he says there are masses of ore on the surface which would average forty per cent. of pure copper, and that some of the pieces weigh from one to three tons each. "The quantity of ore lying about is almost incredible; certainly hundreds of tons. These selections are about six miles from the Leichardt River, where there is abundance of timber and water for smelting purposes. The cost of carting the ore to the furnaces would be a mere trifle. The distance from water communication is 160 miles, and the road one of the best and most level in the colony. These fields of copper are 100 miles nearer to a port than the Cloncurry Mines."

ALBERT RIVER, in latitude, south, $17^{\circ} 38'$, and longitude, east, $139^{\circ} 53'$, lies south-south-east half east, thirty miles from Sweer's Island.

BURKE TOWN is twenty-six miles from the mouth of the Albert, up the river, and is a small township.

NICHOLSON RIVER, combined with the waters of the Gregory, runs parallel to the Albert for a distance of thirty miles, before entering the Gulf, twelve miles west of the Albert, and eighty miles west of the Flinders.

CLIMATE OF CARPENTARIA.—Landsborough was on this coast during the hottest months—November to February—and he found the mean range to be much lower than some parts of Victoria and New South Wales. He points out that "the theories of science have repeatedly broken down when put forward to explain the anomalous phenomena of the climate of Australia; that all the prophecies that sheep stations would not answer so far north as Moreton Bay, have been now refuted by experience; and that, on the Darling, Bogan, and Macquarie, wool has been most profitably grown, although the thermometer at times ranged from 90° to 127° . And yet as if on purpose to upset all preconceived notions, and still further to illustrate the fact that from its southern to its northern extremity all Australia is an anomaly—the real fact is that, at its tropical extremity, the temperature is actually lower than in those districts alluded to."

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CHAPTER I.

AREA OF AUSTRALIA—COMPARATIVE VIEW OF THE FINANCIAL AND STATISTICAL POSITION OF THE AUSTRALASIAN COLONIES.

It must be patent to all that a vast area of unoccupied fertile country, as well as land containing great mineral wealth, is situated at the threshold of our doors awaiting to be utilised by liberal laws for the benefit of generations yet to be born. We will glance at, and place in juxta-position, the areas of the various colonies composing the whole continent.

AREA OF AUSTRALIA.

	Square Miles.	Acres.
WEST AUSTRALIA.—The area is ..	978,298 =	626,111,323

It is eight times as large as the United Kingdom, and comprises all the territory between latitude, south, 13° 44', and 35° 8', and lying west of the 129th meridian of east longitude to the Indian Ocean. It has a seaboard of over 2000 miles, being 1280 miles in length from north to south, and 800 miles in breadth from east to west. It is bounded on the north and west by the Indian Ocean, on the south by the Southern Ocean, and on the east by South Australia; but only about 600 miles from Albany, in the south, to the Murchison, in the north, by a depth of 150 miles, are occupied.

SOUTH AUSTRALIA.—The area is ..	914,730 =	585,427,200
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It lies between latitude, south, 11° 7', and 38°; and from latitude, south, 26° to Cape Northumberland, it lies between longitude, east, 129° and 141°; and north of latitude, south, 26°, it is between longitude, east, 129° and 138°, as far as the Arifura Sea and Gulf of Carpentaria. It is bounded on the west by West Australia; on the east by Victoria, New South Wales, and Queensland; on the south by the Southern Ocean; and on the north by the Gulf of Carpentaria and the Indian Ocean. The coast line of the southern boundary, owing to the irregularity of the shore, is 1600 miles in length from Cape Northumberland, running north-west.

<i>Carried forward</i> ..	1,893,028 =	1,211,538,523
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	Square Miles.	Acres
<i>Brought forward</i> ..	1,893,028	= 1,211,538,523
<p>THE NORTHERN TERRITORY, sometimes called the Northern Territory of South Australia—which, however, is not its designation in the Land Act—is all that tract of country north of the 26° of latitude, south, and lying between longitude, east, 129° and 138°, comprising about 531,250 square miles, or 340,000,000 acres. A special act has been passed dealing with this territory (included within South Australia.)</p>		
VICTORIA .—The area is	88,198	= 56,146,720
<p>It is situated at the south-eastern corner of Australia, and lies between latitude, south, 34° and 39°, and between longitude, east, 141° and 150°. Its extreme length from east to west is 480 miles, and extreme breadth from north to south is 240 miles. It is bounded on the north and north-east by New South Wales, from which it is separated by the River Murray; on the west by South Australia; on the south-east by the South Pacific Ocean; and on the south by Bass's Straits, which separate it from Tasmania. It has a coast line of 600 miles.</p>		
NEW SOUTH WALES .—The area is ..	323,437	= 206,999,680
<p>It lies between latitude, south, 28° 8' and 37° 0' 23", and between longitude, east, 141° and 153° 38'. Its extreme length from east to west is 900 miles, the average being 500 miles; the extreme breadth from north to south is 850 miles, the average being 500. It is bounded on the north by Queensland; on the east by the South Pacific Ocean; on the south by Victoria, from which it is separated by the Murray, and by a line drawn from its sources to Cape Howe; on the west by South Australia. It has a coast line of 800 miles.</p>		
QUEENSLAND .—The area is .. .	678,600	= 434,301,000
<p>It lies between latitude, south, 10° 37' and 29°, and longitude, east, 138° and 153° 30'. Its length from north to south is 1300 miles, its breadth 800 miles, and it has a coast line of 2550 miles. It is twelve times the size of England and Wales. It is bounded on the north by the Gulf of Carpentaria, and Torres Straits, which separate it from New Guinea; on the east by the South Pacific Ocean; on the south by New South Wales; on the west by South Australia, and by the 141st meridian of longitude, from latitude, south, 29° to 26°; thence along the 138th meridian of longitude to the Gulf of Carpentaria.</p>		
Total area of the Australian Continent	2,983,263	= 1,909,288,923

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COMPARATIVE VIEW of the revenue, expenditure, public debt, land alienated and unalienated, population, live stock and cultivated lands—of the Australasian colonies in 1874.

	Revenue.	Expenditure	Debt.	Acres Alienated.	Acres Unalienated.	Population
	£	£	£			
West Australia ..	148,073	143,266	119,000	1,823,799	624,287,524	26,209
South Australia ..	1,003,820	1,051,622	2,969,750	5,712,773	579,714,427	204,623
Victoria ..	4,106,790	4,177,338	13,990,553	9,932,633	46,514,087	808,437
New South Wales ..	3,509,966	2,939,227	10,516,371	16,357,033	191,642,967	584,273
Queensland ..	1,160,947	1,121,710	5,253,286	1,368,470	432,935,530	163,517
						1,787,064
Tasmania ..	327,925	374,078	1,476,700	3,982,003	12,795,597	104,176
New Zealand ..	1,906,860	1,786,414	13,366,936	17,414,169	49,785,831	341,860
Totals ..	12,164,331	11,593,655	47,712,596	56,590,880	1,937,675,963	2,233,100

	Horses.	Cattle.	Sheep.	Pigs.	Acres Cultivated.
West Australia ..	26,636	46,748	777,861	13,290	45,292
South Australia ..	93,122	185,342	6,120,211	78,019	1,330,484
Victoria ..	180,254	958,658	11,221,036	137,941	1,011,776
New South Wales ..	346,691	2,856,699	22,872,882	219,958	464,957
Queensland ..	99,243	1,343,093	7,268,946	42,884	64,218
Tasmania ..	23,208	110,450	1,714,168	51,468	326,486
New Zealand ..	99,261	494,113	11,674,863	123,741	548,944
	863,415	5,995,103	61,649,967	667,301	3,792,157

CHAPTER II.

GEOGRAPHICAL FEATURES — PACIFIC OCEAN — MOUNTAINS OF AUSTRALIA—SEASONS—MONSOONS—PREVAILING WINDS—GREAT TIDAL WAVE.

GEOGRAPHICAL FEATURES.—Australia contains an area of 2,983,263 square miles. Its greatest breadth from north to south is about 1965 statute miles, and its greatest length from east to west is about 2600. Its narrowest breadth, viz., between the head of the Gulf of Carpentaria on the north, and the indentation on the south—the Australian Bight—is about 1250 miles. Its most northerly headland is Cape York, in latitude, south, 10° 37'. The extreme southern is Wilson's Promontory, in latitude, south, 39° 8'. Its most westerly limit is Cape Inscription—Sharks' Bay—in longitude, east, 112° 55'; and the most easterly point is Cape Byron, in longitude, east, 153° 38'. It is the largest island in the world, is in area about three-fourths of the whole continent of Europe, and has a coast line of nearly

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8000 miles. It is bounded on the north-east by Torres Straits, which—at a point where they are about eighty miles in width—separate it from New Guinea. On the north it is bounded by the Gulf of Carpentaria and the Arifura Sea, beyond which is that grand archipelago of richly fertile islands which stretch away to Asia; and the aggregate population of which, in 1853, was supposed to be over 25,000,000 souls. On the west, Australia is bounded by the Indian Ocean, which reaches to Africa and up to the Arabian Sea and Bay of Bengal. On the east it is bounded by the South Pacific Ocean, which extends as far as the western shores of South America—Chili being 8200 miles from Australia—a very extended and unbroken coast line, having no considerable openings but the Gulf of California and Bay of Panama. On the south is Tasmania, which is separated from Australia by Bass's Straits—about 200 miles wide; and south of and around Tasmania is the said Pacific Ocean which rolls away to the Antarctic Circle, merging in the Southern Ocean—encompassing in its course New Zealand. This vast ocean—9000 miles long by 12,000 broad—exceeds in area all the dry land of the globe, and forms about one-half of its waters. It is twice the size of the Atlantic; stretches away to the Arctic Circle, and to the Asiatic shore; and presents five large land-locked seas, shut in by peninsulas and island chains, viz., the Sea of Kamschatka, Sea of Okhotsk, the Sea of Japan, the Yellow Sea, and the China Sea. But, says an authority—"Its most distinctive feature is the numberless island forms that stud its bosom. Between the two tropics, from north-west to south-east (a distance of 4000 miles in length, by 1500 miles in width) extends the vast island system of Polynesia, mostly built up from the depths below, by the tiny coral insect, working in myriads, and working for ages."

MOUNTAINS OF AUSTRALIA.—The **EASTERN CORDILLERA** runs, at a distance of fifty miles to 200 from the sea, along and parallel with the east coast of Queensland and New South Wales; when approaching Victoria it takes a south-westerly sweep terminating in the Australian Alps. From the Main Dividing Range in the southern portion of Queensland are three cross ranges, the McPherson Range, the Peak Range (the middle,) the Davis (Northern.) Whilst the River Brisbane has but a short course, forty miles, to the sea, the three sections formed by these ranges are, in respect of drainage, separated from the rest of the colony and from each other; and the rivers flowing between these chains in long deflected courses, gain the sea by fissures in the coast range.

IN NEW SOUTH WALES.—On the ocean side of the great mountain range, along the east coast, about sixty or 100 miles from the coast, are many fertile valleys well watered. Inside of the range is a vast plain falling down westward to the tributaries of the Murray; and there are elevated plains rising up against the mountains; such as the Liverpool Plains, 1000 feet high; the Wellington and Yass Plains,

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1200 feet high; westwards these coalesce with the Riverina Plains, upon and between the Lachlan and the Darling. This high mountain chain is designated the Australian Alps, Blue Mountains, and Liverpool Range. Some of the longitudinal valleys, between the main range and its eastern parallel dependencies, are very elevated and hemmed in by high mountains. The Illawarra valley is fifty miles long by five broad. Mount Kosciusko is 7215 feet high, near to it Forest Hill, on the boundary line of Victoria, is 5000 feet; but the chain, generally, does not exceed 3000 feet.

IN VICTORIA, the Great Divide, a prolongation of the Australian Alps, traverses Victoria from east to west; from which, on the north, the waters flow to the Murray, on the south to Bass's Straits. The general elevation of the range is about 3000 feet. On the south, between Cape Otway and Cape Howe, is a bold lofty coast; the cliffs have an altitude of 500 to 1000 feet. Wilson's Promontory, the south-east corner of Victoria, is a bold projection—having an elevation of 2350 feet—connected with the mainland by a low sandy isthmus. Eastwards is Cape Howe, and Mount Howe, in the rear, is 1250 feet high. In the east, the Dividing Range is about 50 to 100 miles in breadth; in the middle and western, about twenty miles; and wide plains extend towards the Murray. North-east of Wilson's Promontory is Gipps Land. Hereabouts, owing to the bend of the coast line, the spurs approach nearer to the sea. The loftiest mountains of Australia are in the north-east of Victoria. Matlock, near Wood's Point, is 4561 feet; Mount Feathertop, 6303 feet; and many others in the neighbourhood and as far as the Dargo, are from 5000 to 6000 feet high.

IN SOUTH AUSTRALIA, on both sides of Spencer's Gulf, are hill ranges extending north-west; but separated from the Great Dividing Range of Victoria, by a low level tract of land, a continuation of the Wimmera country. East of Spencer's Gulf, from Cape Jervis to the Murray, the hills trend towards and east of Adelaide. To the north and throughout the interior are low ranges, running from east to west, with open, grassy, stony or sandy plains, dense scrub or Eucalypti forests. The settled districts are chiefly the shores of Lake Torrens; on the east side of Gulf St. Vincent, and towards the head of Spencer's Gulf. West of this gulf, in the centre of Eyria Peninsula, is a plateau 1300 feet in height; and its southern part, in Flinders County, is also a plateau, 600 to 1000 feet in height.

IN WEST AUSTRALIA.—The Darling Chain, about 1000 to 2500 feet high, stretches along the west coast from Cape D'Entrecasteaux—east of Cape Leuwin—to Murchison River; but, unlike the chain on the east coast, it is not a dividing chain, as the rivers all traverse it in their course to the west coast. The south-western district consists of hills, interspersed with extensive plains. The division of the waters is along a slightly elevated and broad ridge, 1400 to 1900 feet high, between the meridians of 118° and 119° east, running as

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far north as 21°, and from which the rivers flowing north and north-west are given off from an elevated country, running at right angles to the coast, far into the interior, between the Fortescue and De Grey rivers, to latitude, south, 18°, and longitude, east, 131°; where, at the source of the Victoria, it is 1660 feet in height, and a little to the east of which it coalesces with the plateau south of the elevated district, west of the Gulf of Carpentaria. "There are no high ranges known either throughout this interior, or along the coast; but the surface is varied everywhere by isolated low ridges and hill groups, rising from a few hundred to about 1000 feet above the level of the plains." The explorations of Messrs. Warburton, Forrest and Giles, leave little more to be known as to the nature of the interior approachable from the north-west coast; for the most part stony, sandy, or scrubby plains—a hopeless desert.

THE CONFIGURATION OF AUSTRALIA may be thus summarised. Around the Australian coast, for the most part, is a mountainous range, but of no great elevation. On the north, the Gulf of Carpentaria has no coast range; but inland, 150 miles, the country gently and abruptly rises into table-lands under 2000 feet high. On the south is the "Great Australian Bight," an unbroken range of cliffs, 200 to 400 feet high, stretching from West Australia to South Australia without a single valley or water-course. Along the north-western coast, "from Cambridge Gulf, is a table-land of sandstone, of no great elevation, that runs along to the Gulf of Carpentaria, where it sinks down, its highest part being south of Port Essington. This is part of the ring of higher land which forms the circumference of the Australian interior." Mr. W. H. L. Ranken, an old colonist, in his recent and most interesting work, "The Dominion of Australia," says:—"Within 200 miles, excepting upon the southern side, there is always a belt of coast country having seaward exposure, which belt is the disputed ground between fertility and sterility," and pronounces the interior to be "one plain, without a break upon its surface, of 1,500,000 square miles, its centre lower than its margin, and both too low to drain its meagre rainfall. These margins are not the coast of the country, except upon the south; and between them and the sea are the richest and best watered lands. This margin of the great plain, or watershed, is from 1500 to 3000 feet elevation, and from 100 to 200 miles inland, the south-eastern corner being the highest and boldest outline; the northern portion being more irregular, and often lower than any other part; the south being a low cliff facing the sea. From the twenty-seventh degree the main watershed—that is, the edge of the inland basin—the division of eastern and western waters, is more inland. Another barrier, called the Coast Ranges, extends between the coast and this main watershed. This coast range is continuous, and separate from the other for ten degrees, where it again joins it, culminating in the highest peaks in Australia—4000 to 5000 feet—at Rockingham Bay,

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where an immense mass of ranges almost overshadow the sea, cut into deep rich valleys teeming with vegetation; thence, northward, the ranges run to the fourteenth parallel of latitude; where, from the east to the west of York Peninsula, neither range nor hill divide the waters."

The overland line of telegraph crosses the continent between the 137th and 133rd meridians, and west of the 135° is the long unknown and spinifex desert which has lately been so gallantly traversed by Messrs. Forrest and Giles; but travelling east of the 135th meridian of longitude, fine grazing country in Queensland—watered by the Thompson, Barcoo, Alice, Diamantina, and numerous streams—is reached, which is being rapidly depastured upon. "The continent is trough-shaped, the east and west borders elevated, though unequally descending in gradual slopes towards immense interior plains of trifling elevation; and varied occasionally, especially towards the north-east, by isolated groups of low mountains rising as islands from boundless level tracts."

SEASONS.—Australia being nearly the antipodes of Europe, the seasons of one country are precisely the reverse of those of the other. In Australia the summer months are December, January, and February; autumnal, March, April, and May; winter, June, July, and August; spring, September, October, and November; and the further you advance within the tropics, the less difference is there in the temperature of summer and winter.

MONSOONS.—North of the equator—the south-west monsoon prevails from 1st May to 31st October; the north-east monsoon from 1st November to 30th April. South of the equator—the north-west monsoon prevails from 1st November to 30th April; the south-east monsoon from 1st May to 31st October.

On the seaboard of tropical countries a land breeze with great regularity sets in at night, and a sea breeze in the morning; occasioned by the difference of temperature of the sea and land by night or by day.

PREVAILING WINDS.—Mary Somerville remarks:—"While the sun is north of the equator—in the winter of the southern hemisphere—the winds are from the south-east, all over the northern part of the continent of Australia, with little, and only occasional rain. These winds are the regular trades. But in October and November the wind changes to the north-westerly monsoon and brings with it rain. The monsoon shifts back to the south-east in April. In January, February, and March, the heavy falls of rain and the soaked state of the soil give rise to the inundations, in the neighbourhood of Bourke's Creek. Strong westerly, generally south-westerly, or sometimes north-westerly winds prevail over the northern part of the continent during the greater part of the year; and, owing to precipitation of rain from these, up to the thirtieth parallel of south latitude, there are fertile tracts on the seaward sides of the mountains; but these winds in passing over the mountain tops

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are drained of their moisture; so that on their inland sides, barren wastes prevail."

THE GREAT TIDAL WAVE.—We again quote from Mary Somerville, who demonstrates in her charming work on "Physical Geography," that the Antarctic Ocean—an uninterrupted expanse surrounding the globe—is the source and birth-place of the tidal wave; and that when the sun and moon, under certain circumstances explained by her, "pass over the ocean to the east of Tasmania, New Zealand, and the South Pole—they raise a vast ridge of water, or Great Tidal Wave, which reaches to the very bottom of the sea, and tends to follow the luminaries to the north-west; and having received that primitive impulse, it continues to move in that direction long after the sun and moon cease to act upon it." Pressing forward into the Pacific, Indian, and all other oceans, it skirts the west coast of South America, bringing high water to each place as it passes; but, impeded by the numerous islands, its progress is there but slow, and but little perceptible. With such violence and speed it rushes along the shores of the Indian Peninsula—now assuming a northerly course—that it arrives at Cape Comorin, Bay of Bengal, before noon on the first day of its existence, nearly at the same time that it has brought high water to the coast of Tasmania. "The Tidal Wave moves uniformly and with great velocity in deep water; variably and slowly in shallow. It moves at the rate of 1000 miles per hour in the South Pacific; and scarcely less in the Atlantic. But the sea is so shallow on the British coast that the tide takes more time in coming from Aberdeen to London than to travel over an arc of 120°, that is, from 60° south latitude to 60° north latitude." Entering the Atlantic on its north-westerly course, it brings high water later and later to each place. In twenty-four hours it arrives at Cape Blanco, on the west coast of Africa; at the same time at Newfoundland, on the east coast of North America; then, deflected to the east by the continent of America, it flows at right-angles to its former path; and on the morning of the second day it reaches the most westerly points of Ireland and Scotland. "The great branch of it then passes north-east, through St. George's Channel and the Irish Sea; and meeting a branch coming round the west coast of Ireland, the united wave, after having carried high water to the west coast of England and all the coasts of Ireland, turns round the most northern point of Scotland, and arrives at Aberdeen at noon on the second day; at the same time carrying high water to the opposite shores of Norway and Denmark. Now, this tidal wave flows to the east of west, a direction exactly contrary to that with which it began its transit through the Atlantic; and it continues this course, ruling the tides along the English shores and those of the opposite continental coasts, till it arrives at the mouth of the Thames at midnight of the second day; and does not bring high water to

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London till the morning of the third day after leaving the Antarctic Ocean." The height of the wave is about one or two feet in the Pacific, five or six in the Southern, and eight or ten feet in the Indian and Atlantic Oceans.

Thus, the wave which passes Tasmania at midnight, reaches Ceylon in twelve hours, Cape of Good Hope in thirteen, and is off Newfoundland in thirty-five; in forty-seven hours it has rounded the north of Scotland, and reached Aberdeen; in fifty-nine hours it is at the mouth of the Thames; but only on the morning of the third day—from Tasmania—it has brought high water to London.

The theory of the great tidal wave and of the tides is exquisitely described in the said geography, at page 226. Among the South Sea Islands the height to which the waters rise never varies more than a few inches, and throughout the year it is uniformly low water at six in the morning and at six in the evening; and it is high water at noon and at midnight. At Launceston the tide rises sixteen feet, at Port Darwin twenty-six feet; and Landsborough says, at the Albert River, in the Gulf of Carpentaria, it ebbs and flows but once daily. Mary Somerville states that the tide in the open ocean is but an alternate rise and fall of the water—through which the tidal wave travels—but not the water itself; that a bird resting on the surface of the sea is not carried forward as the waves rise and fall; and that if such a body of water moved at the rate of 1000 miles per hour, as does the tidal wave, "it would cause universal destruction; since, in the most violent hurricanes, the velocity of the wind scarcely exceeds 100 miles in an hour."

CHAPTER III.

NEW ZEALAND—FIJI.

NEW ZEALAND.

LIMITED space permits us merely to point out the position of this wonderfully fertile country, which promises to become one of the most important of the British possessions. The area of the—

	Square Miles.	Acres.
NORTH ISLAND is	48,710	= 31,174,400
MIDDLE ISLAND is	72,072	= 46,126,000
STEWART'S ISLAND is	1,800	= 1,152,000
	122,582	78,452,400

This is the statement in Dr. Hochstetter's valuable work.

These islands lie between latitude, south, 34° and 47°, and between longitude, east, 166° and 179°. The extreme length from North Cape to the South exceeds 1100 miles; its breadth varies from 100 to 300 miles, though 100 is the average. The Northern and Southern Islands.

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are separated by Cook's Straits; and Stewart's is divided, from the Southern Island, by Fourneaux's Straits. The country is apportioned into eight provinces and a county. In the NORTH ISLAND are Auckland, Wellington, Hawke's Bay, and Taranaki; and Nelson, Marlborough, Canterbury, Otago (with Southland,) and Westland County, are in the SOUTH ISLAND.

NEW ZEALAND lies in the Pacific Ocean—between Australia and Cape Horn—and is bounded by it on every side.

On the west is Tasmania, and on the east South America.

Auckland, in the Northern Island, is distant from Sydney 1315 miles. From Auckland to Taranaki is about 130 miles; Taranaki to Nelson, about 160; Nelson to Wellington, 120; Wellington to Canterbury, 160; Canterbury to Otago, 170; and Otago to the Bluff, 120 miles. Nelson is distant from Sydney 1180 miles, and from Port Albert, Victoria, 1310. From Bluff Harbour to Port Albert is 1200 miles.

The North Island is 500 miles long, with an extreme breadth of 250. The South Island is about 500 miles long, and varies in width from 150 to 200 miles. Stewart's Island is thirty miles long, and of slight importance. The coast line of the two largest islands is 3000 miles, and Cook's Straits vary in width from twenty to eighty miles. Dr. Hochstetter remarks that the whole area of the islands is but 50,000 acres less than Great Britain and Ireland. The Northern is one-thirty-second less than England, Wales, and Scotland; the Southern Island is one-ninth less than England and Scotland, and two-thirds of the whole of New Zealand. 52,000,000 acres are calculated to be land fit for agricultural or pastoral purposes. The rest comprise inaccessible mountains, coast, sand-hills, swamps, lakes, and rivers.

CLIMATE.—This must be very variable in a country extending from latitude, south, 34° to 47°. The climate of the NORTH ISLAND is not unlike that of Britain, more particularly Ireland. It is moist, but temperate. The lowest reading of the thermometer being 40°, but generally from 50° to 60°. The heat of summer does not destroy the verdure, as there are frequent rains; the thermometer seldom rises above 78°, but generally ranges between 66° and 78°. Violent gales are frequent and continually change their direction, ascribable to the great height of the mountains. The SOUTH ISLAND has not so many lakes and marshes, and is less heavily timbered. The south-western shore is exposed to stormy weather, and is very humid. Snow remains for weeks upon the plateaux of Otago, solid ice is frequent in Southland, and for two or three months, the Canterbury Plains are covered with snow. The climate of Canterbury is very variable; the winter being most severe; the prevailing breezes, coming from the west, pass over the snow-clad mountains; but the summer is very hot. Nelson is more temperate. Hokitika, on the west coast, has a mild winter and cool summer; whilst Invercargill, 11° further south than Auckland, has hotter days in summer than Auckland.

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On the west coast of the South Island the rain is excessive, but the east coast of both islands does not experience too much moisture. The Alps shield the plains of Canterbury; the Ruahine Hills shield Hawke's Bay district—considered the finest climate. Abundance of rain falls at Auckland and Wanganui. The coast, particularly towards the south-west corner of Westland, has an excessive rainfall. The course of the winds in the southern hemisphere is with the sun; and the most frequent wind is west south-west. Off the western and southern shores the winds are very boisterous. Landing at western ports is often dangerous owing to the surf rolling in after rough breezes outside. On the west coast of the North Island it is fine from November to April.

A chain of lofty mountains intersects the whole of the Southern and a great part of the Northern Island, some of which rise to the height of 14,000 feet above sea level, and are always covered with snow. From this chain—as it were the back bone of the islands, run spurs transversely; and subordinate ranges of hills, clothed with wood up to the verge of continual snow. Among the mountains, several volcanoes are active; but to attempt a description thereof, or of the mountains, lakes, rivers, bays, roadsteads, and hot springs—require and merit a separate volume.

THE POPULATION of New Zealand, by the census of 1st of March, 1874, numbered—exclusive of the Maoris—299,861, of whom 4761 were Chinese.

THE MAORIS consist of eighteen tribes, and on 1st of June, 1874, numbered 46,016; in 1864 they numbered 55,970. On the 30th of June, 1874, the European population—estimated—numbered 310,576.

THE LIVE STOCK in New Zealand, in 1874, numbered—horses, 99,261; cattle, 494,113; sheep, 11,674,863; and pigs, 123,741.

THE REVENUE in 1874 amounted to £3,063,811, of which £1,294,276 was raised by taxation; and the EXPENDITURE to £3,035,711. A New Zealand newspaper notes:—"On 30th June, 1875, the public debt was £17,671,106, less the accrued sinking fund; but the amount of the loan yet to be raised will increase the debt to £19,380,906. The accumulation of the sinking fund will, however, have reduced the debt to £17,980,906. The annual charge for interest has amounted to £835,150, and £110,635 for a sinking fund. The land fund reached but £773,265, a falling off, the Treasurer remarks, to be satisfactory, as the Government are anxious to conserve the public estate, and to carefully deal with it. He considered that his budget statement conclusively proved that the revenues of the colony are amply sufficient to meet all its liabilities. He added that a large portion of the debt had been incurred for railways, which are now a realisable asset, and could be disposed of for £8,000,000; and that the financial condition of the colony is sound, and exceedingly prosperous." The *Argus* thus comments upon the budget:—

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"There is a degree of solidarity in the financial reputation and credit of the Australasian Colonies that makes the soundness and good name of each a matter of concern to all. It is, therefore, gratifying and reassuring to receive so favourable an exposition of the state of affairs in New Zealand, which has tested its borrowing capacity far more than any of the other colonies. The proposals of the Government appear to evince a recognition of the great caution and prudence demanded to maintain the confidence of the public creditor unimpaired; and it is well to see that no desire to present an *ad captandum* budget, framed solely for party and political objects—has been allowed to interfere with the discharge of this important obligation."

IMPORTS.—These, in 1874, amounted to £8,121,812, and the **EXPORTS** to £5,251,269. **LAND ALIENATED.**—During 1874, 887,380 acres were alienated; the total alienated being 17,414,169; and unalienated, 49,785,831. **UNDER CULTIVATION.**—549,844 acres yielded 2,974,339 bushels of wheat, and 5,548,729 bushels oats. **TONNAGE OF SHIPS.**—856 vessels inwards had 399,296 tons; 882 outwards, 385,533 tons. **RAILWAYS.**—209 miles were open, and 621 miles were then in course of construction. **ELECTRIC TELEGRAPH.**—2632 miles were in use. **IMMIGRATION.**—43,965 persons arrived in 1874, viz., assisted, 32,118, and unassisted, 11,847; the emigrants who departed numbered 5859. In 1875, the Registrar-General reports that 32,259 immigrants arrived, and 6565 emigrants departed. **GOLD EXPORTED.**—In 1875, £1,407,770 was exported, of which Auckland contributed 69,485 ounces; Greymouth, 89,092 ounces; Dunedin, 115,442 ounces; Hokitika, 46,138 ounces. The total amount exported since 1857 has been 7,955,295 ounces, valued at £30,984,786. **WOOL EXPORTED.**—During 1874, 46,848 pounds, valued at £2,834,695, and during the year 1875, 54,401,540 pounds, valued at £3,398,555, were exported.

INTERCOLONIAL CABLE.—This has been successfully laid between Australia and New Zealand. On this continent the shore end starts from La Perouse's Monument, Botany Bay, eight miles from Sydney, and proceeds in an east south-east direction—1200 miles—to Blind Bay, and is landed at a point sixteen miles from Nelson. The tariff per cable between New Zealand and the Australian Colonies is at present fixed at ten shillings and sixpence for ten words, inclusive of name and address, and one shilling per additional word.

TARIFF.—Spirits, proof, 12s. per gallon; wine containing less than twenty-five per cent. alcohol, 4s. per gallon in wood, or for six reputed quarts; ale and porter, 1s. per gallon in bulk, or 1s. 3d. in bottle; firearms and arms, 5s. each; but with exception of the articles exempt from duty, and some specially rated at per pound, other articles are chargeable with ten per cent. duty.

THE OUTLYING ISLANDS, dependencies of New Zealand, are the **CHATHAM ISLANDS**, lying 380 miles east of the South Island; the

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AUCKLAND ISLES, in latitude, south, 51° , are 240 miles south of Stewart Island; **CAMPBELL ISLAND** is about 100 miles south-east of the Auckland group; the **ANTIPODES ISLES** are 400 miles south-east of Dunedin; **BOUNTY ISLAND** is 400 miles south of Dunedin; and the **SNARES** is in latitude south, 48° , and longitude, east, $166^{\circ} 45'$.

F I J I.

FIJI ISLANDS are now a portion of the British Empire. They are situated in the South Pacific Ocean, midway between the Tongan Islands and New Caledonia, and in the mail route from Sydney to San Francisco. The area of ocean over which they extend is 300 miles from east to west, and 200 miles from north to south. The islands and islets number 225, of which eighty are inhabited, and, vary considerably in size. They lie within the parallels of latitude, south, $15^{\circ} 30'$ and $20^{\circ} 30'$, and within the meridians of longitude, east, 177° , and longitude, west, 178° . The two large islands are Viti Levu and Vanua Levu, each of which is over 200 miles in circumference.

LEVUKA is the seat of government, and is on the island of Ovalau, which is eight miles long, by about seven wide, and lies about fifteen miles due east of Viti Levu. Levuka is distant 2160 miles from Melbourne, 1730 from Sydney, and 1180 from Auckland. According to the census of 1875, the white population of Levuka is 1500, of which 700 are women and children.

KANDAVU is a mountainous island, twenty-five miles long by six or eight wide, south of Viti Levu; and here the San Francisco mail steamer calls monthly. A newspaper correspondent notices that the actual heat is never oppressive as in the colonies; but that the moisture accompanying it causes a person to be continually in a state of perspiration, necessitating a change of clothes twice daily—washing being four shillings a dozen. The mosquitoes are most insinuating; the cockroaches, of an immense size, eat up clothes; centipedes are seven or eight inches long. Land crabs, six inches in diameter, climb the cocoa-nut trees and dexterously sever the nuts from the branch with their pincers; the nut falls, and the crab follows down, breaks the shell of the nut and eats the flesh. The settlers have imported horses, cattle, sheep, goats, dogs, and cats, which thrive; but the only indigenous animals are rats and bats. There are beautiful parrots, and ducks, pigeons, owls, &c. Fish are abundant, good eating, and of great variety. There are ten sorts of small snakes, generally harmless. The beetles and butterflies are brilliantly variegated; and at night fire-flies and other insects impart to the atmosphere a most luminous and scintillating appearance. Almost every description of tropical fruit, such as oranges, lemons, shaddocks, melons, &c., as well as sugar, tobacco, and cotton

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—here attain perfection. With exception of the hurricane season, about December or January, the weather is most regular—no sudden squalls—and boats easily proceed from island to island, oftentimes ninety miles apart. The Government expenditure for 1876 is put down at £71,000; of which £14,000 is devoted to immigration, and £10,000 to roads. Some settlers from Ceylon are on the look out for land on the hill country; and Sir Arthur Gordon is devoting himself to ameliorate the condition of the natives, who are perfectly reconciled to our rule.

The Rev. Thomas Williams, now officiating at Emerald Hill, Melbourne, resided thirteen years in Fiji, and from his graphically written work on Fiji, we shall substantially quote. He discountenances the classification of Fiji as one of the Friendly Islands, and divides the group into eight compartments. Following the course of the sun they stand thus—The Ono Group; the Lakemba, thirty-three islands; the Exploring Isles; Middle Fiji, including Ovalau; Vanua Levu, and Taviuni, about fifty islands. The second important division—Great Fiji, with fifty islands on its coasts. The most important division—the Kandavu Group, thirteen islands; the Yasawas, thirty islands. The Fiji Islands extend over 40,000 square miles of the South Pacific, and are the connecting link between the abode of the Malayan and Papuan races, which inhabit Polynesia. They were discovered by Tasman, the Dutch navigator, in 1643. Captain Cook was the first to re-visit them, and in 1789 Captain Bligh, in the *Bounty's* launch, saw them; and again did so in 1792. Captain Wilson, in the *Duff*, was nearly lost here in 1796. In 1806 traders began to visit them; but the Tongans were the first visitors. About the year 1804 twenty-seven convicts escaped from Sydney; and lived a licentious life at Mbau or Rewa, aiding one tribe against another with firearms, till they ended their career in native wars, or in quarrels amongst themselves. In 1813, one Savage—by name—a Swede, was drowned and eaten. In 1824 only two, and in 1840 only one survived; and he, Paddy Connor, had as great influence with the king of Rewa, as had Savage acquired with the King of Mbau. These two men are described as monsters in human form, and the worst of the desperate *escapées*. If Paddy Connor desired the death of a native, the King of Rewa would at once send for the victim, desire him to make and heat an oven, into which, having been murdered, he was cast. After the death of his patron, Paddy left Rewa, thoroughly Fijianised; and so desperate a character was he that the white settlers drove him from their ranks. He closed his life intent only upon rearing pigs and poultry, and increasing his children from forty-eight to fifty. Commodore Wilkes says:—"So beautiful was their aspect (these islands,) that I could scarcely bring my mind to the realising sense of the well-known fact that they were the abode of a savage, ferocious, and treacherous race of cannibals."

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CLIMATE.—In December, January, and February, the heat is most oppressive, the least exertion is followed by profuse perspiration. The temperature is nearly uniform, the greatest extremes of heat and cold being experienced inland. At Lakemba (we are quoting all along from the reverend gentleman's work,) in 1841, and at Vanua Levu, in 1851, the lowest temperature was 62°; and 121° the highest; "the mean temperature throughout the group may be stated to be 80°. Very hot days are sometimes preceded by very cold nights." In 1850, twenty-four days were rainy; then four or five dry, and forty-five rainy days, more or less, succeeded; but on many of these days only a single shower fell. The dry weather extends over two or three months; but in such torrents does the rain descend that "the approach of a heavy shower, while yet far away, is announced by its loud beating on the broad-leaved vegetation; and when arrived, it resembles the bursting of some atmospheric lake." The swamps are too limited to produce miasma, and neither epidemical nor endemical fevers prevail. "Fever in its several forms is scarcely known; other diseases are not so numerous or malignant, as in other climes, especially such as lie between the tropics. The air is generally clear, and in the spring and autumn months the climate is most delightful." Voyaging amongst these islands, "the traveller is surrounded by scenery of the richest loveliness—high mountains, abrupt precipices, conical hills, fantastic turrets, and crags of rock, frowning down like olden battlements; vast domes, peaks shattered into strange forms, native towns on eyrie cliffs apparently inaccessible; and deep ravines, down which some mountain stream falls headlong." Here are rich vales, cocoa-nut groves, clumps of dark chestnuts, stately palms and bread-fruit; also patches of graceful bananas, mingling in unchecked luxuriance; and forming, "with the wild reef scenery of the girdling shore, its beating surf, and far-stretching ocean beyond—pictures of surpassing beauty."

TAVIUNI is a fine island, twenty-five miles long, with a coast of sixty miles, and is one vast mountain of 2100 feet elevation. "However wild and terrible the appearance of the island was once—it is now covered with luxuriance and beauty beyond the conception of the most glowing imagination. Perhaps every characteristic of Fijian scenery is found on Taviuni (or Samosomo,) while all the tropical vegetables are produced here in perfection."

FIJIAN RACE.—East and west Polynesians differ in physical conformation, colour, and language. At the east end of the group are the Asiatic peculiarities, which die away as we go west, giving place to African but not negro types. In colour, the Fijian approaches the pure Papuan negro; but in form, feature, and physical development, is vastly superior. The race may have been preserved pure from Malay blood, as they invariably slaughtered all shipwrecked foreigners cast upon their shores. Although Commodore Wilkes estimated the population to be 133,500; the Rev. T. Williams thinks

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that 150,000, in 1858, was nearer the true estimate, but the measles is said lately to have carried off 30,000. There once existed many independent kings, constantly at war with each other, and who were surrounded by men of rank who advised them. Fijian society was divided into castes—chiefs, warriors, common people, and slaves, by war. It is difficult to realise the fact, that a country where but a few years ago cannibalism was openly practised, as were daily the most indescribable atrocities, rendering the Fijian race a scandal to humanity, has been reclaimed from such savage barbarism; principally by the untiring exertions of the Rev. T. Williams, the Rev. D. Hazelwood, the Fijian lexicographer, the Rev. J. W. Appleyard, Dr. R. Lyth and Mr. Cross—Wesleyan Missionaries, who arrived about 1834. So late as 1851, the first-named gentleman was often compelled to stand by, not daring to remonstrate, and see the most cruel tortures perpetrated upon the most unoffending individuals.

CHAPTER IV.

ARCTIC AND ANTARCTIC OCEANS—POLYNESIA, MICRONESIA AND MELANESIA—SUPPOSED DISCOVERY OF NEW GUINEA AND AUSTRALIA BY DE QUIR—THE DISCOVERERS OF AUSTRALIA.

THE ARCTIC OCEAN, 2400 miles in diameter, is land-locked, opening only into the Pacific at Behring's Straits; and into the Atlantic between Greenland and Norway, and through Davis' Straits. In this ocean are Greenland, Nova Zembla, and also Spitzbergen. The nearest approach which has been made to the North Pole has been to north latitude $82^{\circ} 55'$, 500 miles distant; and after 300 years' attempts, a north-west passage to India has been proved to exist; but, shut up by ice, it cannot be availed of.

THE ANTARCTIC OCEAN lies to the south of New Zealand, and the South Pole has been approached to latitude, south, $78^{\circ} 10'$ —within 800 miles—where "Victoria Land" presents great volcanic peaks, perennial ice-bound shores destitute of vegetation; and all is utter desolation.

VICTORIA LAND.—On 11th January, 1841, the expedition under Sir James C. Ross discovered land in latitude, south, $70^{\circ} 41'$, and longitude, east, $172^{\circ} 36'$. This was nearly upon the same meridian as New Zealand, and 2000 miles south of it. "Continuing our course towards this land," Sir James says, "it rose in lofty mountain peaks of from 2000 to 12,000 feet in height, perfectly covered with eternal snow; the glaciers which descended from the mountain summit projected many miles into the ocean, and presented a perpendicular

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face of lofty cliffs." Encountering boisterous gales, snow storms and fogs, steering south, they observed a mountain, 12,400 feet above sea level, emitting flames and smoke in splendid profusion. This was in latitude, south, $77^{\circ} 32'$, and longitude, east, 167° , and was named Mount Erebus. An extinct crater to the eastward was called Mount Terror. Continuing to follow the mainland trending southerly, at last, in latitude, south, 79° , their course was impeded by a barrier of ice projecting from a cape to the east south-east. It presented a perpendicular face of 150 feet, and concealed everything from view but a range of very lofty mountains in a south south-east direction. "Every part of the coast where indentations appeared, we found so perfectly filled with perennial ice, of many hundred feet in thickness, that all our endeavours to find a place of shelter for our vessels were quite unavailing. The great southern land we have discovered, and whose continuity we have traced from nearly the 70° to 79° of latitude, south, I am desirous to distinguish by the name of our gracious sovereign, Queen Victoria."

POSSESSION ISLES, in the Southern Ocean, lie off Victoria Land, north of Mount Erebus.

ENDERBY LAND, between the meridians of longitude, east, 40° and 60° , is south of Kerguelen Island, which is south-west of Australia.

ST. PAUL'S ISLAND is north of Kerguelen Island, in the route from the Cape to Australia.

CROZETTS ISLES lie south-west of St. Paul's.

POLYNESIA embraces the islands between the equator and latitude, south, 32° , and stretches away east to the 130° longitude, west.

MICRONESIA is that part of the Pacific between the equator and latitude, north, 30° ; and from longitude, east, 130° , stretching away to the 150° longitude, west.

MELANESIA comprises the islands north-east of Australia. The northern, eastern, and southern portions of the Pacific are nearly free from islands. The Galapagos (Turtle Isles) are on the equator in longitude, west, $90^{\circ} 10'$, 700 miles from the American coast; one isle rises 4700 feet high. The Revillagigedo Isles, lie in latitude, north, 19° , and 269 miles from Cape St. Lucas, in California. Easter Isle is in latitude, $27^{\circ} 8'$ south, and longitude, west, $109^{\circ} 10'$, 1100 miles from Chili. Juan Fernandez is in latitude, south, $33^{\circ} 37'$, and longitude, west, 79° , about 400 miles from Chili; and was the supposed residence of Robinson Crusoe and his man Friday. West of these islands, so near America, a space of ocean free from any islands extends over 30° of longitude. Through this open space its first explorer, Magellan, in 1520, coming out from the Straits of Magellan—thus avoiding the rounding of Cape Horn and Terra del Fuego—steered without seeing land until he reached the Marianne Islands, north-east of the Philippines.

THE MARQUESAS' ISLES are the first isles met with, west of the zone without islands; and lie between latitude, south, 8° and 11° , and

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between longitude, west, $138^{\circ} 30'$ and 143° . The group has a population of 50,000, but the race are heathenish. The French claim the group which numbers thirteen principal islands. North north-west of the Marquesas, through 25° of latitude, is a space free of isles—except a few reefs—bounded on the north by the Sandwich Islands, and west by the Marshall, Gilbert, and Marianne Islands. North and north-west of the Sandwich Islands the sea is open up to the Aleutian, Kurile, and Japan Islands.

LOW ARCHIPELAGO, OR PAUMOTUS GROUP, under a French protectorate, comprise eighty-one islands, between longitude, west, 125° and 145° , extending 1000 miles by 600. The most westerly is 120 miles from Tahiti. Of the group only seventy-six square miles is habitable dry land. The people profess Christianity.

PITCAIRN'S ISLAND is in latitude, south, 25° , and longitude, west, 130° . The descendants of the mutineers of the *Bounty* (who came here in 1790 with twelve Tahitian native women) have been removed herefrom to Norfolk Island.

SOCIETY ISLANDS are an extensive group lying between longitude, west, 149° and 152° . Tahiti, or Otaheite, is thirty-two miles long, north-west to south-east, 120 miles in circumference, has an area of 430 square miles, and a population of 7000. Papieti, the capital, is in latitude, south, $17^{\circ} 29'$, and longitude, east, $149^{\circ} 29'$. It is very mountainous, the loftiest peak being 11,500 feet high. The climate is said to be most salubrious and enjoyable; the people are a most superior race, their colour being an olive, a bronze, or reddish-brown. They are inferior to the New Zealanders and Sandwich Islanders, but resemble the Friendly Islanders. They are muscular, and above the middle stature. The scenery of these islands has been described as most enchanting. Land and water, level plains, romantic valleys and deep glens, mountains rising majestically, the trees, the flowers, the prolific nature of the soil—all conduce to the creation of a fairy land like landscape. Like the Sandwich Islanders and the Tongese, the missionaries have rescued them from the most barbarous idolatry, licentiousness, obscene rites, and the demoniacal cruelty of intertribal wars, and now—at any rate in outward appearance—they are exemplary Christians; and whilst being the handsomest are the pleasantest and most interesting of the Pacific Islanders. The French took possession of the group, and allow the ex-queen Pomare £1200 per annum. The import duty is twelve per cent., and in 1872 the imports amounted to £125,000; the exports to £110,000—including cotton, £36,302, pearl shells, £20,531, cocoa-nut kernels, £20,191—oranges, 4,969,000,000.

THE MANIHiki ISLES lie about latitude, south, 10° , and longitude, west, 160° . They comprise about ninety-two small islands. The inhabitants have been Christianised.

COOK'S ISLES, OR HARVEY'S ISLES, lie about latitude, south, 20° ,

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and longitude, west, 160°. They are about 500 miles east of the Society Islands and 500 south-east of the Samoan Islands. These isles number eleven, and the largest is Raratonga. They have become Christianised.

PHOENIX ISLES lie between latitude, south, 5°, and latitude, north, 5°—the central-Polynesian group.

THE UNION ISLES lie about latitude, south, 10°, and longitude, west, 170°—300 miles north of Samoa.

THE SAMOAN, OR NAVIGATORS' ISLANDS, extend between latitude, south, 13° 13' and 14° 30', and between longitude, west, 168° and 173° west; and lie 160 miles east north-east of the Tongan group. The eastern group contains four, and the western thirteen islands. The largest is Savaii, 120 miles in circumference, and has an extinct volcano 4500 feet in height. The population is about 50,000; a well-disposed and intelligent race, who now profess Christianity.

THE FRIENDLY, OR TONGA ISLANDS, lie east of Fiji, between latitude, south, 13° and 23°, and longitude, west, 173° and 176°. Fifteen of the islands rise to a considerable height, and thirty-five are moderately elevated. The total number is 120, of which thirty or forty are inhabited, and have a population of about 20,000. Tonga, or Tongatabu, the largest of the group, has a population of 8000. The Wesleyans have converted them all to Christianity, and they are governed by a native king—George, of Tonga—who, on opening his Parliament in September, 1875, stated his intention of granting a Constitution to his subjects, and of divesting himself of his privilege of creating nobles; and to avoid the necessity of levying taxes (except upon intoxicants,) he ordained that "it is (*tabu*) forbidden to sell any land by a Tongan for ever," but that the lands shall be leased by the Government and by the chiefs.

THE LOYALTY GROUP lies east of New Caledonia; Lafu, the largest, is ninety miles in circumference.

NORFOLK ISLAND is south of New Caledonia and north-west of New Zealand. It was formerly a place of exile for the most incorrigible of the New South Wales' convicts, but they have been removed, and the island is now inhabited by John Adams and the descendants of the mutineers of the *Bounty*, who were originally located at Pitcairn's Island; they now enjoy one of the finest climates in the world, and patriarchically governed by John Adams, their ancestor and minister—live in a state of contentment and beatitude unknown in any other land. Their wants are but few, and their vices as few. The descendants of Tahitian mothers, they are of a light olive colour; both men and women being handsome and well-proportioned. Intrepid seamen, they will board a vessel in any weather, and are delighted when they can obtain illustrated London newspapers; and exchange fowls, yams, &c., for tea, sugar, and such articles which they are usually out of.

NEW CALEDONIA extends from latitude, south, 19° 37' to 22° 30'.

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and from longitude, east, 163° 37' to 167° 14', and is 240 miles long by about forty in width. The soil is well adapted for the growth of sugar, cotton, tobacco and coffee, and there are 500,000 cocoa-nut trees in full bearing. In Louis Napoleon's time, the French took possession of it, and now maintain it as a convict settlement. The free white population numbers about 5000; the soldiers and sailors about 1600; the convicts, 8000 or 10,000; and the natives (very well disposed,) about 40,000. The Government expenditure is about £300,000 per annum. From Sydney, a monthly steamer carries the mail to Noumea; and a first-class passage costs £10, the time of transit being about five days. Owing to the mountainous nature of the country—some mountains in the centre are 8000 feet high—the mineral deposits have been as yet but little sought after. Copper, gold, silver, and nickel are said to abound. An authority notes, the shores are bordered by coral reefs, which also extend fifty miles to the south, and 150 to the north; indicating the former extension of the island to an area three times its present size. The eastern is the rainy side, the western, the dry; and the rivers of so large an island being considerable, have interfered with the growth of coral on that part of the coast where they enter. But this island, and the whole region west to Australia and Papua, is without volcanic action of any kind; and here, the coral sea is one of the richest regions of the globe in the coral-making zoophytes. A cold current from the south arrests their progress further south than Sandy Cape, in Queensland, in latitude, south, 24° 41'.

NEW HEBRIDES lie in latitude, south, 13° to 20°, and longitude, east, 166° to 170°. Espiritu Santo is the largest, and south of it is Malicolo; Tanna is north of the Loyalty Group, and Erromanga is north of Tanna; and here, in 1853, the Rev. John Williams was murdered by the natives.

Mr. W. H. Duncan, of the Customs, Sydney, has lately ably and graphically translated from the Spanish the "Memorial presented by Captain Pedro Fernandez de Quir, concerning the population and discovery of the fourth part of the world—*Australia the Unknown*—its great riches and fertility; discovered by the same captain with license of the Royal Council of Pampeluna: printed by Charles de Labayen, anno 1610." When the New Hebrides were first discovered by De Quir, a renowned Spanish navigator, they were supposed to be part of a great southern continent. De Quir is very vague as to latitude and longitude, and stated that he believed it extended to 90° latitude, south. On referring to Mr. Duncan, he wrote to us as follows:—"The 90° latitude is not an error of the press, unless the error be in the original. I really believe that De Quir thought he had discovered a country which reached from the 13° of latitude to the South Pole, or beyond it. It is now quite certain that the Australian continent had been discovered by the Portuguese half a century before De Quir's time. Being himself a Portuguese, he may

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gradually assume a lighter colour and longer hair, till they lose entirely the negro character, and melt into that of the Malays and other Asiatic islanders."

THE CAROLINES AND PALOS ISLANDS, sometimes called New Philippines, are claimed by Spain, and lie between latitude, north, 6° and 10°, and between longitude, east, 136° and 156°.

THE PELEW ISLANDS are a small cluster between latitude, north, 6° 54', and 8° 12', and between longitude, east, 134° 5' and 136° 40'. Pelew is very mountainous, abounding in extensive and beautiful valleys, but possesses no rivers; water in abundance being obtained from small streams. "The men go absolutely naked, but the women wear a narrow piece of cloth before and behind. Their hair is long, and is worn rolled up in a graceful manner on the back of the head. They are tattooed from the middle of the thigh to the ankle. Salt is unknown to them. The women loudly lament over a corpse; the men preserve a manly silence." Their churchyards are said to resemble those of the old country, but we opine they bear a greater resemblance to those of the Admiralty Group. The *Challenger*, calling thereat, an officer asked to see the churchyard, when "the gentleman addressed, who was an excellent pantomimist, solved the mystery by smilingly patting himself over the diaphragm." The islands are populous, the natives being well made, of middle size, and copper-coloured. Captain Wilson was wrecked here in 1783, and the utmost esteem existed between the natives and his crew. The king sent his son, the amiable Prince Le Boo, to England, where he was much honoured, but died of the small-pox.

THE MARIANNE ISLANDS, OR LADRONES, lie west of the Philippines, in longitude, east, 145°. They are claimed by Spain, which hence transports convicts from Manila. One morning, in 1851, we saw three men garotted in Manila for participating in an insurrection amongst these convicts.

CHAPTER V.

SANDWICH ISLANDS—HONOLULU.

THE SANDWICH ISLANDS, OR HAWAIIAN ISLANDS, lie between latitude, north, 19° and 21°, and longitude, west, between 155° and 161°. This Archipelago, at the north-eastern extremity of the Pacific, was discovered by Captain Cook in 1776 whilst on his way from Otaheite to the north-west coast of America; and in his journal expresses surprise that this nation could have spread itself "in every quarter of the Pacific, from New Zealand, in the south, to the Sandwich Islands, in the north, and from Easter Island to the New Hebrides—i.e., over 3600 miles north to south, and

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5000 miles east to west." We shall, in substance, chiefly quote from Bennett's "Honolulu Directory" now before us. The islands are mostly mountainous, rising from 4800 to 13,953, which is the height of Hawaii, the southernmost. Oahu, on south-west of which is Honolulu, rises to 3800 feet; and Maui, the central, rises to 10,200 feet. The population, as per census of 1866, was—of Hawaii, 19,808; Oahu, 19,879; and Maui, 14,035; the total population of all the Islands being 62,959, the half-castes numbering 1640, and the foreigners (not Chinese) 4194. Honolulu is a place of call on the San Francisco mail route. From San Francisco to Honolulu is 2120 miles; from Honolulu to Fiji, 2279; thence to Auckland, 1348; and from Auckland to Sydney is 1360 miles. Hawaii, or Owhyhee, is the largest island. It is about 280 miles in circumference, and covers 4000 square miles. Oahu, although only containing 520 square miles, is the most important island as it contains the only secure harbour in the Sandwich Islands; and consequently every vessel navigating the Pacific puts in here to refit, and for provisions and water. "The city" of Honolulu is the capital, and the residence of the king; and in 1866 contained 13,521 souls. Bell notices—"On the north are the Russian settlements along the coast of their Asiatic territories; towards the north-west are the dominions of Japan; due west are the Marianne Islands, the Philippines, and Canton; and on the east are California and Mexico—they lie in the very track pursued by vessels passing thence to China or Calcutta. They are visited also by the fur traders of Nootka Sound, and by the whalers of the North Pacific Ocean." The climate is most salubrious, the temperature ranging from 60° to 90°. The people in all the islands are Christians, and are governed by an enlightened native king—under whom they rest happy and contented, the state of the islands being most flourishing. The soil is highly fertile, and yields good crops of sugar, cotton, tobacco, arrowroot, and sweet potatoes.

The native traditionary account of the death of Captain Cook, on 17th January, 1779, at Owyhee, is, "that on his first visit they thought him a god, and the priests prostrated themselves before him as such, and they would take no payment for supplies to the ship. On his return, one day after, they began to thieve; the sailors shot a chief, and his brother advanced towards Cook, in a threatening attitude, with a spear, vowing vengeance. Cook fired at him; a stone was thrown, which hit Cook, who at once fired and killed the man. Retreating, sword in hand, they pressed upon him; a powerful man griped him, merely to retain him; Cook groaned through pain, and at once they knew he was not a god, and killed him by repeated dagger thrusts." Cook estimated the population on his arrival at 400,000; but other authorities say it was 300,000. In 1866, the census gave 62,959—a decrease, in eighty-seven years, of 238,000, caused by wars, the pestilence of 1804—equal to the great plague of London—drunkenness, and

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syphilis, introduced by foreigners; irregular adoption of foreign clothing, and leprosy, an incurable disease.

Dr. Hutchinson, in 1862, reported that the great body of the people were contaminated syphilitically, and gave as causes of the decadence of the population—the prevalent crime of feticide, by a very dangerous operation; very early marriages, inducing sterility; the practice of polyandria, which is almost universal amongst young females; and the practice of riding on horseback cross-legged. “Put the question to a healthy pair why they have no children? and they will reply: ‘We do not wish for them; if we had them, we must stay at home; now, we can go wherever we please, and enjoy ourselves.’” But all these practices are now forbidden, and gradually will disappear; as visitors give a pleasing account of the refined behaviour of all classes. Mr. J. J. Wild, of the *Challenger*, on a visit in August, 1875, saw “King Kalakaua, who speaks good English, and is good-looking, dignified, affable, and engaging. There was also Prince Leleiohoku, the heir apparent, a most elegant-looking youth, who would cause a *furor* in the *salons* of the west-end.” Mr. Wild describes a six miles’ walk behind the town, amongst charming country houses, half hidden among beautiful trees and flowering tropical plants, and by exotics—“the spoils of New Zealand, China, Japan, and America.” The natives are most friendly; “both sexes ride in the same fashion, in white, green, yellow, blue, and red garments, their hats and necks adorned with garlands of flowers and leaves; their rich brown complexion, large dark eyes, and magnificent black tresses form a very pleasant *ensemble*. They are also very polite, give you a respectful nod from the top of the saddle, a friendly Polynesian smile, and say, ‘Alohanui’ (my love to you.)”

Although the missionaries are sneered at for their trading propensities—as if they could live upon air—the present state of affairs is the result of their presence; for prior to their arrival, so recently as 1820, the vilest customs prevailed, and the country was an absolute “Sodom and Gomorrah.” A man had many wives, a woman many husbands; brothers with sisters; parents with children. “For men to interchange wives, and wives their husbands, was a common act of friendship, and those who would not do this were regarded as unsocial and churlish.” At least two-thirds of the infants born perished by the hands of their parents; their aged or infirm fathers and mothers they cast from a precipice, or buried them alive; the sick remained untended, or the physicians drugged them to death amidst superstitious mummeries and incantations. A high authority, Jarves, says, that “when a chief died, a perfect saturnalia of licentiousness and crime immediately followed; all restraints were cast aside, every vice and crime was allowed, and gambling, drunkenness, theft, murder in open day, promiscuous prostitution and violation prevailed throughout the land during the orgies of

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the carnival; which, happily, from its own violence, soon spent itself out." Look at that picture and then on this—after the advent of the missionaries!

Highly volcanic are these islands, and ten earthquakes have occurred since 1789; the last, in 1868, was the most destructive. On the 2nd of April, in a beautiful valley, where were depastured on a rich carpet of grass, sheep, cattle and horses—a rumbling noise was suddenly heard, and a terrific explosion sent a stream of hot mud and water three miles from the site of the valley. It varied in width from half a mile to a mile, and was from two to thirty feet deep, and along its course destroyed men, animals, and trees; every living thing fleeing before it. On another island the top blew off like the lid of a pot; an island was thrown up a mile from shore, and the molten lava from the fissures ran out and joined it to the mainland—Mauna Loa.

Immediately after the mud eruption, a tidal phenomena occurred in 1869, something similar to that of 1837, when the sea suddenly retired eight feet below low water-mark, and the fish were left dead upon the ground. The sea returned and receded for six feet, and every twenty-eight minutes rose and fell for twenty-four hours. At Hilo, a large portion of the harbour was left dry; the people rushed down to see the cause, when suddenly a roaring wave rolled in at the rate of six or eight miles an hour—rose twenty feet above high-water and washed away the people.

New Britain and New Ireland are closely connected, geologically, with New Guinea, as is New Caledonia with New Zealand; but all the other Pacific groups are of coralline or volcanic origin, or are due to both agencies. The form of the coral isles is usually that of a horse-shoe, and the coral insects exists in all seas which lie in a zone whose temperature never is less than 68°. The coral zone lies within the parallels of latitude, 28°, and is about 56° in breadth. The coral insect cannot live except below the level of low water, and cannot exist at a greater depth than 100 to 200 feet.

CHAPTER VI.

ABYSSINIAN TUBE WELLS.

ABYSSINIAN PUMPS (Danks'.)—By tube wells in certain localities 400 gallons of water per minute can be raised. These pumps appear so admirably adapted to supply water, at a trifling cost, where it exists at no great depth, as it does on the sea-shore of Port Darwin, that we quote the subjoined extracts from Mr. Corbett's account of the *modus operandi* of inserting the tubes, which are gas pipes, two-inch diameter, into the earth, and by which he now obtains an ample supply of water for his stock. Well does the writer remember that daily he had much difficulty in obtaining a bucket of water from the

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dormant spring on the beach; and that such a pump as we now describe would have been appreciated highly, as by merely driving down a few lengths of the tubing where springs exist, the pump, which is three and a half inches in diameter—will draw 400 gallons per hour; and the cost of the pump, and thirty-feet tubes, with two tongs, will not exceed £7.

This essay, by Mr. Francis Corbett, was read at the Royal Society's meeting, on 13th July, 1874, and was listened to with the greatest interest:—"With reference to your inquiries about the pumps known as the Abyssinian tube wells, I have to report that they are a complete success, and I have no doubt that, wherever springs are within thirty feet of the surface and the ground not very hard or stony, their adoption will be found convenient and economical, and will be a great boon to many parts of the country not abundantly supplied with water; or where the ground is not retentive of surface-water, and, consequently, unfit for the formation of dams. I saw one of these pumps in use four or five years ago in Grafton, on the Clarence River, N.S.W., and was desirous to try if they would suit for the supply of stock with water, but they could not be procured in Melbourne. On complaining to Mr. Danks, of Bourke-street, of the impossibility of procuring them, he undertook to make them, and I at length determined to make a trial of what he could do for me. His arrangements are much simpler than those made in England, and as effective as anything can be. He took six lengths of ordinary iron piping for gas pipes, each of six feet long; into one of these lengths he screwed a piece of solid iron, pointed about eight inches long, and made the shoulder next the pipe of a greater diameter than the pipe. This is for driving into the ground, and the diameter being greater than the pipe, it clears the way, especially where the holes are made in the pipe. Just above where this solid point is screwed, holes are drilled in the pipe for the water to enter, just as in ordinary tubing for a well—for sixteen or eighteen inches in length. The number of these holes must be in proportion to the size of the pump so as to admit as much water as it is capable of throwing. Less holes would be required in a small pump suitable either for domestic purposes or a small paddock. The pumps I got Mr. Danks to adapt the pipes for, were *No. 6 Douglas*, the largest size made by that manufacturer. They are as large as can easily be worked by manual labour, and the larger the pump the better, as it takes the man less time to fill the troughs. Mr. Danks' arrangement for attaching the different lengths of the piping is very good, as the pipes preserve their full strength. He has a ring or hoop made about three inches broad, tapped from both ends, with right and left handed internal screws. The ends of the pipes have screw-threads worked on the outside of them about an inch and a quarter or an inch and a half long. The ring is screwed on to the first length of the pipe and the second length is screwed into the ring till

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the two ends of the pipe meet. By this connection the joints of the pipe become, probably, the strongest parts of it. The first length of the pipe, owing to the addition of the driving a solid iron point—is nearly seven feet long; when this is driven into the ground, leaving only a few inches above the surface, the ring is screwed tightly on with a gasfitters' tong; which Mr. Danks will supply with the pump if required. I may here mention, I would recommend that two of these tongs should be got, because, in screwing the lengths of the pipe on tightly, the part driven into the ground will turn round—if not held back—when the ring is screwed fully down. The next length of the pipe is screwed into the ring, and the driving is recommenced till the end of the second length is only five inches or six inches above the surface; and so the work of driving goes on. I may mention that Mr. Danks recommends that, when screwing on the different joints, the screws should be smeared with white lead. I have adopted his suggestion. In order to protect the top of the pipe as well as the driving block from injury by the blows in driving, he has fitted a cap which screws on to the ends of all the pipes, and offers a level surface to the monkey or block. Inside this cap, he devised the plan of having a little block of wood fitted. When the cap is screwed down tight, the wood presses on top of the pipe, and at one and the same time prevents jar on the pipe; and prevents the screws being injured by striking. Care should be taken never to omit putting the block in, nor to omit screwing the cap well down on it; otherwise the cap may fasten on top of the pipe and not screw off again, owing to the thread of the screws being injured; when one length is driven, the cap is taken off and screwed on to the top of the next length after the latter is connected with that already in the ground. Now, as regards the driving, this can be managed by any handy man about a station with the assistance of two labourers to haul up and down the monkey, &c. The apparatus may be of the rudest kind. My arrangements are as follows:—I took three pieces of quartering about eighteen feet long and three by three. These were erected over the spot selected for the pump so as to form a triangle to hold a double pulley block for hauling the driving block up and down on. For the driving block, I used a piece of a gate post about nine inches square, and about four or five feet long. Through this a hole was bored a few inches from one end, and a rope about sixty feet long passed through this hole. Then either end of the rope is passed from opposite sides over each wheel or sheaf of the pulley-block, so as to come down to the ground at opposite sides, where the men who are to lift the driving block, stand. The log, or driving block, consequently hangs on the middle of the rope, when the men pull, and can be lifted about fourteen or fifteen feet from the ground. It is, of course, necessary to provide for the guiding of the driving block; otherwise when let drop on the top of the pipe, it would fall on one

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side. My arrangement for this guiding frame, is two pieces of hardwood quartering, fourteen feet long, bolted at each end to two cross pieces of battens, so as to keep them about three inches apart. The lower ends of these are sunk a few inches in the ground to keep them steady; and the upper ends are fixed to the triangle just behind where the block hangs. On the back of the log or driving block, a piece of quartering, three inches wide is spiked; this has two cross pieces of batten bolted to it; the piece of quartering passes up and down with the driving block in the opening between the side pillars of the guiding frame, thus keeping the driving block from falling laterally; and the pieces of batten at the back keep it from falling forward, when the block falls on the head of the tube. Such is the description of the pile-driving machine, which can be constructed in an hour out of the materials which are at hand on most farms and stations. When the driving apparatus is fixed up, the first length of the pipe (that with the point on it) must be placed perfectly perpendicular under the centre of the driving block. To prevent it moving, a piece of batten may be placed at top and bottom between it and the guiding frame, and the man managing the pipe may hold a piece of rope round it so as to keep it steady in its place. At first the taps on top should be light till the pipe gets well into the ground. When well down there is little danger of its going to either side; but it is wise throughout, to keep it steady under the blows of the monkey. If the first length is carefully attended to and kept perfectly upright, there is little trouble with all the others. When the pipe comes to some obstruction it should be driven no more, as it would bend where it is weakened by the holes if it got many blows after touching the rock. When the pipe gets down to a depth where water may be expected, it is well to let a plummet down into it to ascertain if there is water; if so, and if it has risen high, it may be well to screw on the pump and try if it is merely soakage-water or if really a spring. The first pump I put down I found at twenty feet, there was eight or nine feet of water, and I tried the pump on it. I afterwards drove to a depth of twenty-six feet and the water rose twenty feet in the tube. Notwithstanding, however, there being so much water in the tube, it came up at first only slowly, and there was great pressure on the handle of the pump. It required several hours pumping before the water became clear and came with a free flow. But the success of the pump may be judged from the fact that I filled first two troughs, containing about 594 gallons, connected together by a tube; and the two were filled in an hour and a quarter, the pump throwing out the water as freely at the end as at the beginning; showing that the springs were fully equal to the pipe, of which the bore is two inches. The doubt I had about tube-wells being equal to pumps which have a large reservoir of, say six feet square, was, that there was no reserve of water, and that they would

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exhaust under half an hour's pumping, but I now see that if you get a good spring it is quite equal to the pump with storage. Moreover, wherever there is a good spring you can, by the tube-well, get down to the bottom of it; whereas in well-sinking the men are obliged to cease working before they get down as far as would be desirable, by reason of the flow of water. At first a great deal of mud comes up, then sand; the water gradually clears till it is as free from sediment as any of the other pumps. The second pump I put down was in a more doubtful spot than the first. It had to be pumped a good while before water came. For some time again it only gave about a gallon of thick water a minute. The pressure on the pump was so great that it was quite plain it was draining the water through the ground—that it was, in fact, tearing open springs by main force. As the pumping went on, the water would clear for awhile, then, apparently a fresh spring would be opened, and thick water would come again; but the flow improved gradually. After nearly an hour's pumping it yielded a gallon every seven or eight seconds; and after that it required four or five hours' pumping before there was as full a flow of water as the pump was capable of throwing. The third of the pumps which Mr. Danks made for me has been down twice without getting on a spring. It came once on rock at twelve feet from the surface where there was no spring; next it came on rock at a depth of twenty-one feet. Here there was no water either. So great is the pressure of the pump at the bottom that it drew mud up into the tube to a height of nine feet. There is not much difficulty in lifting the pumps. Get a piece of quartering for a lever, say fifteen feet long, put a bullock chain round the pipe with the hook to run on the chain, roll the other end round the lever. When the other end of the lever is lifted the chain tightens on the tube so thoroughly that it will not slip; and the tube will draw with a strong lift of the lever. When the end of the lever is lowered after the first lift of the pipe, the chain round the pipe will slip down; and when the lever is again lifted it will tighten round the pipe, so that it will take it up gradually without any readjusting or refixing of the chain. I have heard it stated that tube-wells collapse or cave-in after a time. I think, however, considering how clear the water is which comes up in those I have down, that it would take a long time to bring about such a result. Neither can I see why, if any falling-in took place, it could not be pumped out as well as the mud and sand was, in the first instance. But even if either of those I have did cave-in after a few years, it is only a forenoon's work to lift and drive them again a few yards off; which, of course, I would do, having ascertained that there is water there. At the worst the labour of driving the tubes only is lost. The pump tubes can also be put down in an ordinary well, if required afterwards, being stronger than the piping generally used for that purpose. Mr. Danks will supply a No. 6 Douglas pump for £5 5s., and, when a man gets

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handy at putting them down, fifteen or twenty shillings will cover the expense of driving them. Certainly no one ought to be without water in his paddocks this summer when he can bring it from a depth of thirty feet for say £6 10s. Most of the waterholes one sees are so filthily impure in summer that it is enough to poison the milk, and bring disease on and poison the blood of the animals who drink it. If animals have foul water we must expect fluke and pleuro. My cattle will not even go to waterholes supplied from springs when they can get the pure water in the troughs, and they drink vastly more of it than they would of the impure.

CHAPTER VII.

PLANTATIONS OF EUCALYPTUS GLOBULUS.

BLUE GUM PLANTATIONS.—The blue gum, or *Eucalyptus Globulus*, has been largely introduced and planted in France, Algiers, and the Cape. Dr. Mueller has sent the seeds to various parts of the world, and has thus called attention to the cultivation of this wonderful tree. In Australia and Tasmania, where it grows in great abundance, intermittent fevers are unknown; and places previously subject to this malady cease to be so when this tree is planted. Mr. Bosisto, M.P. for Richmond, and President of the Pharmaceutical Society of Victoria, has done more than any man, to demonstrate the properties of this tree as a fever-destroying tree, yet never have we seen his researches remarked upon in any English paper. The experiments of one medical man and another in Europe are alluded to—perhaps upon a pound of gum leaves. Mr. Bosisto, for years past, has lived at different seasons in the *Mallee* scrub, conducting his experiments on a scale such as only a man resident in Australia could; and he also had with him a steam-engine for distillation purposes, which operated upon four tons of material daily. His essential oils from the gum will no doubt command attention at the Philadelphia Exhibition, as they have already commanded the attention of the world. The red gum is, as we all here know, an excellent substitute for coal. It is dense, emits a great heat, and burns a length of time. There are many species of eucalypti, and, as Mr. Bosisto says, “the aroma of the volatile acid present in the eucalyptus might be detected in the air, along with that of the oil, when travelling in the bush;” and that the oil in the leaves varies according to season. They shed their bark in lieu of their leaves, being evergreen. “The leaves have not one face turned to the sun and the other to the earth, as plants of all kinds generally have, but they stand with their edges upwards and downwards, so that each surface is equally presented to the sun. The

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stem is naked almost to the top, when it sends out branches, forming a small crown, with thin foliage. The leaves are lanceolate, or ovate-lanceolate, generally twisted, and of a dark bluish green colour, with a camphorlike odour." The seed can be procured by sending a post-office order to any of the seedsmen of Melbourne, who will, by post, return the equivalent in red or blue gum seeds. The intercolonial and foreign postage on seeds is one penny for one ounce, and for every additional two ounces twopence; and a single packet must not exceed eight ounces in weight. The inland postage is one penny for every two ounces. The price is thirty shillings per pound for the red gum, and twenty for the blue gum; and so minute in size is the seed that many thousands go to one ounce. The eucalyptus will thrive upon any soil whatever, provided that the thermometrical changes of the weather do not range below 30°. We think that the South Australian government, did they care about Port Darwin, might expend one or two thousand pounds per annum in planting the eucalyptus; so might the Queensland and other governments, in certain localities; but as true it is that "no man was ever a prophet in his own country," so true is it that we on the spot set no store by that rich healthy vegetation to which, perhaps, we owe our freedom from disease. This same eucalyptus we ruthlessly cut down all over the colony, and then we wonder at the ravages made by the measles, diphtheria, and other complaints, possibly caused by foul drainage, or decomposed animal or vegetable matter; which might be counteracted or eradicated by the presence of the poor, despised, blue gum—a most beautiful tree, in its early life. "In arid districts, by sucking the water from beneath the baked surface, and exhaling it into the atmosphere, it partly accomplishes the work of irrigation, and contributes to engender a moister atmosphere." Mr. Bosisto mentions that the *Mallee*—a dwarf eucalyptus, inland along the Murray River—plays a very important part in the climatic influences of Australia. "Hence the *Mallee* supplies an abundance of oil during the moist season, and the coast species during the summer. We have, therefore, a eucalyptus vegetation, charged to its utmost from September to April, around all our populated districts, and we have another in the desert species, charged in like manner from May to October. In other words, as midwinter approaches, the coast species are increasing in volatile products, and the others are decreasing." He adds, finishing his essay read before the Royal Society, that "the *Mallee* country in New South Wales and South Australia covers twenty times the area of Victoria; thus, "we have 96,877,444,000 gallons of oil held at one and the same time in a belt of country massed together, over which the hot winds pass; and considering also, that the same condition exists throughout the major part of Australia with the other eucalypti, as that which exists in Victoria, we cannot arrive at any other conclusion than that the whole atmosphere of Australia is more

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or less affected by the perpetual exhalation of these volatile bodies." Along the Dandenong Ranges, about sixty miles from Melbourne, on the Yarra track to Wood's Point, is a belt of country for, perhaps, thirty miles, along which, at short intervals, are gigantic eucalypti amygdalina—peppermint. When the track was cut, twelve years ago, we walked the whole distance from Wood's Point to Melbourne, 120 miles, and could but wonder at the height of these trees, many towering 300, and even 400 feet high, with few branches, till near the top, and the diameter at the base often being six and twelve feet. We saw many after being felled, and so measured them. The concluding words of the essay are highly eulogistic of the Australian climate. "Medical testimony is that the virulence of malignant fevers is 'meteor-like; dies at its opening day.' No credit can be taken for any improved sanitary condition of our surroundings by ourselves—in our towns and cities. 'Death lives where power lives unused;' and were it not that such happy and benign influences as those exerted by the eucalyptus vegetation existed around us— independent of ourselves—we might mourn our fate."

EUCALYPTUS GROVES.—Trees, only four years old, sometimes are from twenty to thirty feet high, a foot in diameter, and are planted in regular rows like an orchard. From 1000 pounds weight of fresh gathered leaves, the amygdalina (peppermint) yields 500 ounces or twenty-five pints oil; the oleosa (mallee,) 200 ounces or ten pints; the sideroxylon (iron bark,) 160 ounces or eight pints; the globulus (blue gum,) 120 ounces or six pints; the obliqua (stringy bark,) eighty ounces or four pints; rostrata (red gum,) fifteen ounces; the odorata and viminalis (manna gum,) each yield seven ounces. These Mr. Bosisto designates as the eight representative species. Those species which are great in the production of oil, supply it vigorously to the atmosphere; the species less vigorous in oil production are more resiniferous; and these productions alternate according to seasons. Certain species affect certain soils and certain aspects. They may grow prolifically on one side of a mountain and not on the other. "Twenty miles from Algiers, a farm situated on the banks of the Hamyze was noted for its extremely pestilential air. In the spring of 1867, about 13,000 of the eucalyptus were planted there. In July of the same year, the time when the fever season used to set in, not a single case occurred, yet the trees were not more than nine feet high. Since then complete immunity from fever has been maintained. In the neighbourhood of Constantine the farm of Ben Machydlin was equally in bad repute. It was covered with marshes both winter and summer. In five years the whole ground was dried up by 14,000 of these trees, and farmers and children enjoy excellent health. At the factory of the Gue de Constantine, a plantation of eucalyptus has transformed twelve acres of marshy soil into a magnificent park, whence fever has completely disappeared. In the island of Cuba this, and all other paludal diseases, are fast disappearing

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from all the unhealthy districts where this tree has been introduced. A station-house, at one of the ends of a railway viaduct in the department of the Vaud, was so pestilential that the officials could not be kept there longer than a year. Forty of these trees were planted, and it is now as healthy as any other place on the line."

CHAPTER VIII.

LIGHTHOUSES.—(From *Australian Nautical Almanack*.)

WEST AUSTRALIAN COAST.—On **ROTTENEST ISLAND** is one light revolving, seen twenty-one miles; flashes once a minute for eight seconds, and is obscured for fifty-two seconds. On **FREEMANTLE** entrance to Swan River, one light, fixed, seen fifteen miles. On **Breaksea Island, KING GEORGE'S SOUND**, one light, fixed, seen twenty-seven miles. On **Point King, KING GEORGE'S SOUND**, north point of entrance to harbour, one light, fixed, seen ten miles.

SOUTH AUSTRALIAN COAST.—On **Cape Borda, KANGAROO ISLAND**, one light revolving, bright, seen thirty miles; red phase of same light, fifteen miles; exhibits a bright and red flash, alternately, every half-minute. **Tipara Reef, SPENCER'S GULF**, lightship exhibiting a fixed bright light, seen ten miles. On **Troubridge Island, ST. VINCENT'S GULF**, one light revolving, seen sixteen miles; may be seen from all points of the compass every half-minute. **PORT ADELAIDE** light is on the south side of the outer bar, visible from all points seaward fourteen miles. **Port Adelaide PILOT STATION**—one red light fixed, seen four miles. **GLENELG Holdfast Bay, Gulf St. Vincent**—one light, green, fixed, seen six miles. **STURT on Cape Willoughby, Kangaroo Island**—one light revolving, seen twenty-four miles; exhibits a flash every one and a-half minutes. **MacDonnell on CAPE NORTHUMBERLAND**, one light revolving, seen eighteen, fifteen, eight miles; shows, alternately, every minute white, red, green, visible from seaward; white light, eighteen miles; red, fifteen miles; and green, eight miles. **CAPE JAFFA**, one light, revolving every thirty seconds, visible twenty miles.

VICTORIAN COAST.—On **Battery Hill PORTLAND BAY**, one light, fixed, seen fourteen miles on Grey Tower. **PORT FAIRY.**—On **Rabbit Island** is one light, revolving, seen ten miles—on **Red Tower**; exhibits a red flash every three minutes. **JETTY**—one light, green, visible three miles from west south-west to south. **WARRNAMBOOL**—leading light, on beach; one light, fixed, seen three miles, visible from south, $1^{\circ} 30'$ east to south $20^{\circ} 30'$ east; and on **MIDDLE ISLAND** is one light, fixed, seen fourteen miles, visible from all points of the compass.

THE LIGHTHOUSES from Cape Otway eastward are enumerated *en passant*.

ADDENDA.

QUEENSLAND RUNS—OFFICIAL FORMS OF APPLICATIONS.—See Page 366.

SCHEDULE B.

Application for License to occupy a New Run of Crown Lands in the Unsettled Districts.

Received this.....day of.....187..., at.....o'clock.

Commissioner of Crown Lands.

No.....District.

In accordance with the provisions of "The Pastoral Leases Act of 1860,".....do hereby apply for a License to occupy for one year the Crown Lands known as the.....Run in the District of.....which lands are particularly described in the annexed Schedule, and.....herewith tender the sum of Five Shillings for each square mile comprised within the area of the said Run andalso agree to pay any further fee at the same rate that may be demanded for additional area found to exist after survey or other examination by the Commissioner of Crown Lands.

Given under.....hand this.....day of.....187...

The Commissioner of Crown Lands, District of.....

Received from.....the sum of.....pounds.....shillings, being the amount of occupation fee chargeable on the above application.

Commissioner of Crown Lands.....

Schedule to Application for License.

Commissioner's District

Name of Run

Estimated Area.....square miles

Available for pastoral purposes

Unavailable for pastoral purposes.....

Description of the land by reference to leading geographical features or marked or determined boundary lines.....

SCHEDULE G.

"Pastoral Leases Act, 1869."

Application for License to occupy an Unwatered Run of Crown Lands in the Unsettled Districts.

Received this.....day of.....187..., at.....o'clock.

.....District.

In accordance with the provisions of the "Pastoral Leases Act of 1869," and of the regulations published in pursuance thereofof.....do hereby apply for a License to occupy for one year as an unwatered run, the Crown Lands known as.....in the District of.....which lands are particularly described in the annexed Schedule; and I hereby certify

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that the whole of the said lands are more than five miles distant from any permanent water.

Given under.....hand this.....day of.....187...
The Commissioner of Crown Lands, District of

MEMO.—State Name and Surname in full. State place of residence, or nearest Post Office.

Schedule to Application for License.

Commissioner's District.....
Name of Run.....
Estimated Area.....square miles
 Available for pastoral purposes
 Unavailable for pastoral purposes
 Total area comprised within the boundaries.....
Description of the Land by reference to leading geographical features, or marked or determined boundary lines.....

THE BONUS FOR SUGAR manufactured in the NORTHERN TERRITORY has been increased to £5000 for the first 500 tons.—*See Page 113.*

NORTHERN TERRITORY PASTORAL REGULATIONS.—An application for a pastoral lease for twenty-five years, of twenty-five to 300 square miles, must be in writing, and in duplicate—addressed to the Commissioner at Palmerston. It must be accompanied with the first year's rental, viz., sixpence per square mile; and by a plan, in duplicate, of the run, drawn to a scale of not less than one quarter-inch to the mile, describing the position and boundaries of the land; which—when not impracticable—shall be of rectangular form; the length of which shall not exceed twice its breadth.—*See Page 114.*

OFFICIAL NOTICES TO MARINERS.—(From recent *Government Gazettes*.)

“IN TORRES STRAITS there is a rock awash at low water in 10° 30' south latitude, and 142° 50' east longitude. A sandbank seven miles east by north half north from the south-east Bourke Isle.”

“IN BANKS STRAITS there is a rock with only six feet of water on it, lying north-west quarter-west, one and one-third miles from the Black Reef.”

“REPORTED SUNKEN ROCKS east coast of King's Island.—The evidence taken before the official court held at Melbourne this day, 13th October, 1875, into the cause of the wreck of the barque *Flying Squirrel*, near Sea Elephant Island, on the east-coast of King's Island, tends to show that a patch of rocks—extending about 300 feet north and south, and about 100 feet wide, with only eight feet of water over it, not shown in the Admiralty chart—exists. The patch bears from Sea Elephant Rock north-east by north, distant about four miles.”

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SAN FRANCISCO MAIL ROUTE.—The most inclement months to cross by rail are December, January, and February, when the trains have been "snowed up;" not now likely to occur, as snow-sheds have been constructed.

SUEZ MAIL ROUTE.—The warmest and most trying months in the Red Sea are July, August, and September. The coolest are from December to June.

VICTORIAN STATISTICS, 1875 AND 1876.—The PUBLIC DEBT of Victoria on 20th July, 1875, amounted to £16,196,000; the annual interest thereon being £765,000. From the Customs summary, dated February, 1876, laid before Parliament, we notice that the IMPORTS during 1875 amounted to £16,685,875; a decrease, compared to 1874, of £268,111. The EXPORTS during 1875 amounted to £14,766,975; a decrease of £674,135. Of produce £257,953 was shipped coastwise from Warrnambool; £270,114 from Port Fairy; and £228,015 from Portland. Of these items WOOL from Warrnambool represented £140,884; from Port Fairy, £229,258; and from Portland, £196,325. From Portland £109,570 wool was also exported to the United Kingdom. The Wool exported from Victoria during the year amounted to £6,095,958, of which £2,260,799 was previously imported overland. The GOLD exported in 1875 amounted to £3,177,995 (of which £336,868 was previously imported,) being £875,383 less than the export of 1874. **TONNAGE OF SHIPPING**—2171 vessels of 840,386 tons entered inwards, and 2223 vessels of 833,499 tons cleared outwards; of these, 728 vessels of 234,172 tons cleared in ballast.

REVENUE OF VICTORIA.—This, for the year ending 31st March, 1876, amounted to £4,331,773, being £375,873 in excess of the previous year. The CUSTOMS yielded £1,620,272 (the previous year £1,665,329,) of which £576,762 was levied on spirits, wine, beer, and cider; £115,464 on tobacco, cigars, and snuff; £73,297 on tea; £84,180 on sugar and molasses; £15,843 on coffee, &c.; £16,838 on opium; £9,256 on hops; £16,557 on malt; £36,075 on preserved fruits. *Ad valorem* duties reached £288,199, a reduction on the year of £87,508—other articles, £264,600, an increase on the year of £31,061. The EXCISE AND INLAND REVENUE—including duties on estates of deceased persons—amounted to £102,237. The TERRITORIAL REVENUE reached £1,077,633, arising from—the alienation of Crown Lands by auction, £294,258; receipts towards purchase of lands, &c., £624,713; pastoral occupation, &c., £140,037; miner's rights, £5,745; leases of mineral lands, £10,825. The Public Works yielded £1,061,022, viz.:—RAILWAY INCOME, £961,995; YAN YEAN WATER WORKS, £76,092; GEELONG WATER SUPPLY, £6,565; gold fields do., £9,253; dock dues, £6,185—TONNAGE dues, £22,159—the POSTAL AND TELEGRAPHIC DUES, £206,873; SUPREME COURT and other fees and fines, £107,840. MISCELLANEOUS RECEIPTS, £133,732—including PENAL ESTABLISHMENTS, £10,266; GOVERNMENT PRINTER, £8,696; REFORMATORY SCHOOLS, £3,054; INTEREST on public account, £40,061; INTEREST on investments, £18,280; Master in Lunacy,

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£4073; Interest on loans to local bodies, £8713; surplus Mint subsidy returned, £9100; Melbourne Corporation towards maintaining Gardens, £3000. The miners' rights, up to March, 1875, amounted to £6246, representing 24,984 miners only, an excess of £501 over 1876; whilst Mr. Hayter's returns set forth the number of miners on 31st December, 1874, to have been 45,151 (see page 286.) In 1875, an item, £6452, as duties on River Murray goods, is indicated; during the next year is no such item. The excise duty on spirits distilled in Victoria, amounted to £33,718, as against £31,628 for 1875; and the duties on estates of deceased persons reached £57,919 in 1876, as against £62,005 in the previous year.

THE POPULATION of Victoria on 31st December, 1875, was estimated to be 823,449, an increase of population during the year of 15,012. This increase is less than in any year since 1867. From 1868 to 1871 the annual increase ranged from 23,043 to 26,809; from 1872 to 1874 from 18,282 to 17,945. The births in 1875 numbered about the same as in 1874, 26,767. The arrivals in 1875 were 32,744; the departures, 29,342; the former number larger than in any year since 1869, the latter larger than in any year since 1863.

NEW GUINEA—(*Continued from page 192*)—As has been already noted, Captain Moresby has discovered that a large portion of the east end of New Guinea formerly supposed to be the mainland—consists of about sixty islands; the largest, Moresby Island, is thirty-six miles in circumference, and Basilisk Island is nearly as large. He also discovered a channel west of the Louisiade Reefs, which will enable vessels trading between Australia and China to shorten the voyage by 300 miles—the usual route lying east of the Louisiade group. East of Torres Straits—the coast of New Guinea presents a deep bight, called the “Great Bight,” the east side of which has a rocky shore, with lofty mountains in the back-ground. The west side of the Bight is flat and marshy, covered with forests, and intersected by numerous fresh-water creeks.

The Rev. W. G. Lawes resides at Port Moresby, the chief Missionary Station of the London Missionary Society, and, gradually, natives—Samoans, educated as missionaries, are being located in various villages.

Mr. O. C. Stone, on a naturalists' expedition from Annapata, Port Moresby, in latitude, south, 10° 34', and longitude, east, 131° 2', writing to a friend under date 15th December, 1875, mentions that his party had made three trips inland—“The last, twenty-two miles, in a due north-easterly direction, which is evidently the proper way across the Peninsula.” He found the country around Port Moresby a bleak, barren, open forest of gum trees. After crossing the River Laroki the country becomes watered by numerous moun-

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tain streams, and tropical vegetation commences. The gum trees cease, and brush and lofty trees take their place, covering with one mass of forest the mountains as they rise one above the other as far as Mount Owen Stanley. Both soil and climate are remarkably adapted to the cultivation of sugar-cane, coffee, rice, Indian corn, and tobacco. Yams, taro, sweet potatoes, and bananas grow luxuriantly; while melons, cucumbers, betel, bread-fruit, and the sago palm are indigenous. Eight sorts of sugar cane are cultivated. Where the character of the country changes so suddenly, then the birds of Paradise become numerous. Three distinct tribes inhabit this part of the Peninsula—the Motu, who build their houses on the sea shore, the Koitapu, who build theirs on the hills adjoining the sea; and the Koiari, the most numerous, who occupy the interior, living on the mountain tops. These tribes resemble each other in colour, all being of a rich dark-brown colour, with a mixture of the copper-coloured Indian. Physically and mentally these are superior to the coast tribes, being powerfully built men, active, intelligent, quick, laughter-loving, and jocular. Mr. Stone found them to be most peaceable and hospitable savages, and the chief of each Koiari village made him large presents of yams, taroes, sweet potatoes, bananas, and sugar-cane. He believes there are no Papuans on this Peninsula.

FROM YULE ISLAND, M. d'Alberty sent a communication published in the *Sydney Morning Herald*, in December, 1875, translated by Dr. Bennet:—He stated the natives to be rude, ignorant, and less sociable than those of the mountains, and that the aborigines having been driven to the west side, the eastern portion is held by the victors on the mainland—the Motu. He found the villagers in the interior very friendly. The natives take four meals daily, consisting of yams, bananas, taro, sago, bread-fruit, and kangaroo flesh, which they skilfully cut up with a bamboo knife. They devote much time to their morning toilet, combing the hair, painting the face black, red, or yellow, and arranging the ornaments they wear, made of feathers, shells, and grasses, in armlets, necklaces, &c. The women wear the hair short, the men long. They dislike beards or hair on any part of the body, and eradicate it thus, “two fine threads are attached to a small piece of wood, the operator holding the two ends between his fingers, passes them over the skin, and by ingeniously twisting the threads, he catches every hair, and effectually eradicates them.” They skilfully shave the head with pieces of flint or broken glass.

M. d'Alberty saw a chief's son, five years old, buried a few hours after dissolution. “When the grave had been filled in, both parents wept and made great demonstrations of grief, lying down upon the grave. For many days and nights after, the mother took her food, slept, and made her fire near the grave, singing a mournful song, always ending in ‘come back, come back.’ I asked one of the chiefs if the boy was dead, his reply was ‘no, he has gone to sleep.’ They

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do not appear, as far as I could ascertain, to have any worship of idols." He declares the natives of this part to be intelligent, industrious, and persevering, and that they might become in a short time an important people, with whom a friendship might be cemented. He adds, "I come to the conclusion that the colonisation of the country would be easy when the natives understood that their persons and property would be respected, and from the little experience I have acquired, I think they would gladly welcome strangers to settle among them."

Mr. S. Macfarlane, the missionary who accompanied the Ellangowan expedition—of which M. d'Alberti was a member—to ascend the Fly River, has published a graphic description of their encounters with the natives. At a village at entrance of a creek opposite Cape York, they landed. The houses were very long, contained many families, and trophies of skulls were suspended at the entrances. About forty men approached unarmed and very friendly, having previously concealed their bows and arrows behind a house. In the north they are ferocious head hunters, preserving only the skull; with a dagger made from the thigh-bone of the cassowary they despatch a wounded man and then—after dexterously manipulating the neck—with a bamboo knife cut off his head. "At one end of the house which old Mainou appears to reserve for himself, he showed us some of his valuables—a bundle of lower jaw bones and a string of human skulls, of which he seemed very proud. We took him with us as a pilot. He showed us a small bundle of sticks, worn and greasy, carefully tied up, indicating the number that he himself had killed—thirty-three." On the way up the river, which they ascended 150 miles, the natives, imagining the steamer was at their mercy, laughed at Mainou's assurances of pacific intentions. They came on yelling and handling their bows and arrows, but two bullets striking the bow of one canoe, caused such consternation, that the warriors dropped their bows and seized their paddles. On the following day, six large canoes, containing 150 armed men, appeared; but a few shots caused them to sheer off. All the way the tribes appear to have been equally hostile, practising various devices to capture the steamer. At last "to impress them still more with our power to injure them if we desired, we threw a charge of dynamite overboard, which did not explode until one of the canoes was nearly over it." The shock and bubbling up of the water so surprised them, that the man, standing in the canoe, dropped as though he had been shot. Henceforth, they desisted from attack. Two canoes came up to the vessel; and two chiefs, powerful looking men, jumped on board, crying *mero, mero* (peace, peace.) "They said they did not wish to fight any more, so we, according to custom, hooked our forefinger into theirs in token of friendship. We gave them a hatchet and knife each, and parted good friends."

In 1526 a Portuguese navigator, Don Jorge de Mepenís, in making a voyage from Malacca to the Moluccas, sighted the mainland of New

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Guinea, upon which he landed and remained one month. In 1528 Alvarez de Saavedra, another Portuguese, landed there. In 1545 a Spanish navigator, Ynigo Ortiz de Retz, sailed 250 miles along its northern coast, and named it New Guinea. In 1606 De Torres, after separating from De Quir, sailed 300 miles along the east coast; continuing along the south coast, he landed at several places, and sailing through Torres Straits, first sighted North Australia. In 1616 Schouter visited New Guinea. In 1699 Dampier landed, and was fiercely attacked by the natives. In 1770 Cook sailed along the coast, but the hostility of the natives deterred him from landing. From that time, little has been learned of the few visitors who have occasionally landed there—till Captain Stanley surveyed the east coast in 1873.

In 1828 Captain Steenboom, of the Dutch ship *Triton*, took possession of all the territory west of the 141st meridian of longitude. He built a fort in the north-west, which settlement was abandoned by reason of its insalubrity. In 1835 another Dutch ship surveyed the River Doorga. The Acheen war has delayed the Dutch from prosecuting their declared intentions of again founding a settlement on the north-west coast. We cannot comprehend why the British Government cannot take possession of all the country east of the 141st meridian of longitude, and lay claim to it as legally as do the Dutch to the western portion—which they would object to be trespassed upon by any other white nation.

THE TREATY OF 1824, WITH HOLLAND, regulates the relations of England and Holland in the Eastern seas. "Bell," writing at the time the Island of Labuan was selected by England as a settlement, being on the direct track from Singapore to China, remarks—"To such a settlement in the Archipelago there can be but one political objection, not a very formidable one. By the 12th Article of the Treaty, England engaged 'that no British settlement shall be made on the Caraman Isles, or on the islands of Bantam, Bintang, Lingen, or on any of the other islands south of the Straits of Singapore. Hitherto it has been argued by the Dutch, jealous of any interference in the trade of the Archipelago—that the words in italics prevent our forming settlements on any of the islands between Singapore and the Moluccas. But this, even reading the article isolated from the rest of the Treaty, is clearly too wide an interpretation; all that the words, 'or any other islands south of the Straits of Singapore' mean, is—*islands similar in geographical position and political bearings to the other islands expressly named; that is, the other small islands adjacent to the Dutch Sumatra settlements, and to Java.*"

FINIS.

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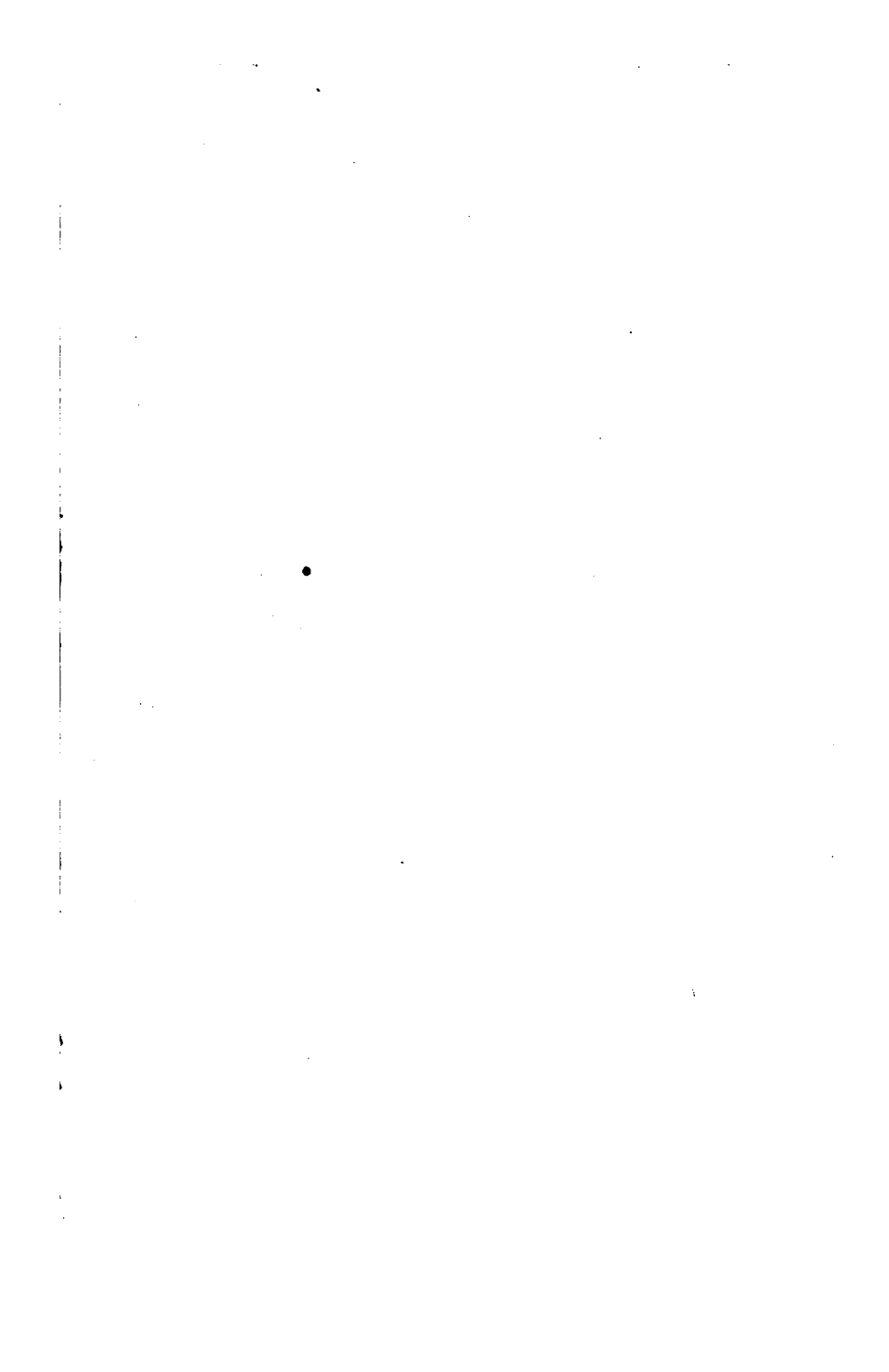
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